

THE LIVING AGE.

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THE DREAMERS KNOW.

I.

When we built the hopes of youth,
Those high embattled hopes,
When we heard the wonder-call
Ring through the echoing world,
When the solemn vision grew,
Splendor and hope and joy,
Like the mounting hues of dawn
Across the heaven of God,
What was the light that shone?
What was the song we heard?
Whence was the daring plan?
What memory divine
Of the glory whence we came
Was the dream of our desire?
None but the dreamers know,
Only the dreamers know.

II.

When the years are closing in,
When the skies of life are gray,
And the hopes are unfulfilled,
And the wonder-call is dumb,
And still the heart is glad,
Proud for the hope that was,
For the echo in the soul,
For the memory of dawn.
What are the tones that live?
Whence the abiding joy
Of the dream that never dies?
Who but the dreamers know?
Only the dreamers know.

III.

When the light of life is low,
And our lovers stand around
And watch the flickering gleam,
When the soul is far withdrawn
From the communings of earth,
No more to be recalled
From the brink of that beyond,
What vision holds it there,
To what far world withdrawn,
In what far dream absorbed?
None but the dreamers know,
Only the dreamers know.

Wilfrid Richmond.

The Nation.

THE ROSE.

For one short season of the year the
Rose
Blossoms in radiant majesty set high!
Then the brief glory of the Summer
goes,

And cold winds toss bare branches to
the sky.

Yet through the tears of mournful Au-
tumn hours,
Through barren Winter, and compas-
sionate Spring,
Under fast-fading, bare, or quickening
bowers
Our hearts still dream the Rose's
blossoming!

The burning hands of lovers do but
close
On some bright scattered petals of
the whole.
Love—not the lover—holds the perfect
Rose

In the immortal Summer of the Soul!
Althea Gyles.

The Saturday Review.

NIGHT ON THE SEA.

Mary, Mary of the Ships,
As gladness once was thine,
Look down, look down from Heaven's
height,
And guard this ship of mine.

Mary, Mary of the Ships,
All day the wind and sea
Girt up the vessel's heart with pride,
She had no thought of thee;
For all the wonder of the world
Was hers to live and be.
She leapt against the leaping wave,
She clove the surges white,
Rejoicing as a tempered sword
New-christened in the fight.

Mary, Mary of the Ships,
Now, in the darkened air,
The sails are like to whispering souls,
The masts reach up in prayer,
The waters shine with all the eyes
Of those who perished there.
The mast-head's light 's against the
stars,
But far beneath, apart;
And in the sheets a sobbing wind
Sighs like a breaking heart.

Mary, Mary of the Ships,
As sorrow once was thine,
Look down upon the sea to-night
And guard this ship of mine.
Westminster Gazette.

THE PROBLEM OF AERIAL NAVIGATION.

The recent construction of machines on which, for the first time in history, men have flown through the air, coupled with the prospective growth of the dirigible balloon into an airship, has led to a widespread impression that aerial flight is soon to play an important part as an agency in commerce. Such a feeling is quite natural under the circumstances. In forecasting the possible results of invention we begin by reasoning from analogy, and the progress of invention in the direction of aerial navigation, with its alternations of success and failure, is at first sight very like what we have seen in the beginning of every new system of developing the powers of nature. Possibilities of great results have first been shown; then, step by step, difficulties have been overcome, until possibilities have grown into realities. The possibility of aerial flight has been shown both in theory and practice, and the difficulties now encountered in perfecting it seem quite like those met with in perfecting the steam engine, the telegraph, and the telephone. The present movement has an advantage over the preceding ones in that its ultimate outcome is more clearly in sight. We find it easier to imagine ourselves flying through the air in balloons or upon aeroplanes than it was a century ago to conceive of the world's commerce being carried on by the power of steam. We can best judge the possibility that this prospect will be realized by first considering what it has in common with the past, and then inquiring whether we have any grounds more secure than analogy on which to base a forecast.

It might seem that there can be no better ground for now limiting what may be hopefully expected from the "conquest of the air" than there was a

century ago for limiting what could be expected from the development of steam navigation. At each early stage, from the time when steam was applied to the propulsion of boats on the Seine and the Hudson, to the date when the first steamship crossed the Atlantic, it was easy, by taking what was known as the measure of the future, to show that no great result could be expected from the new system. With the earlier engines no ship could cross the ocean. But improvement in engines was brought about both by invention and by the development and application of physical principles. The theory of the steam engine, and indeed of heat engines in general, had been set forth by Carnot, but the ideal steam engine to which this theory led was so far outside the practical reach of the time that the earlier inventors and engineers paid little attention to it. Only the germ of the theory of energy had been found by Rumford, and it was not until it had been farther developed that it could be fully utilized in guiding invention. Thus it came about that, instead of the ocean steamship being rapidly developed, a century elapsed before it had assumed its present proportions. Is it not reasonable to expect that the airship, whether balloon or flyer, will have a similar history? This question cannot be answered by pointing out present imperfections. We all know that as a means of transportation it is, up to the present time, so expensive and so doubtful that it is only from future improvements that any important result can be expected. We must inquire whether there is any well-defined limit to future improvement, and, if there is, learn where we shall stand when, if ever, that limit is approached.

One word as to the trend of our in-

quiry. The vital question is not whether aerial navigation is practicable, for that has been settled in the affirmative. In the time of Montgolfier it was shown that men could rise and float in balloons; twenty years ago it was found that a balloon could be guided; now it is proved in the best of all ways, that of actual trial, that a man can fly through the air on an aeroplane. But we are all looking for more than the bare fact of sailing or flying above the earth. We wish aerial flight to serve some practical purpose in the world's work, and to compete with the steamship, the railway, or the mail-coach in the carriage of passengers or mails. The inquiry into which the reader is now invited to enter is, What measure of rational hope we can entertain of this consummation.

All the questions involved are, at bottom, those of physics and mathematics. The pivotal points are such as numbers of feet and pounds, the density of air, the tenacity of materials used in construction, and the resistance to motion under varied conditions. These can be discussed in the most satisfactory way only by mathematical computations. But it is not necessary to go into numerical details to find a basis for our conclusions. General principles, easily within the comprehension of every educated person, will serve our purpose as well as the most rigorous mathematical investigation.

I.

We must distinguish at the outset of our inquiry between advance in knowledge and progress in invention. No definite limit can be set to the possible future of knowledge, nor to results which may yet be reached by its advance. The best recent example of a discovery in the required line, indeed, the only example which suggests the possibility of extending the efficiency of a heat machine beyond the limit

now set by the theories of physics, is the finding in radium of a substance which emits energy in seeming defiance of the laws of energy. Ideally, the power of annulling the gravity of matter would perhaps be the most revolutionary one that we can think of. But the most refined experiments made with a view to discover whether anything can be reached in this direction have shown that by no method yet known can the gravitation of matter be altered in the slightest degree. Should some way of controlling or reversing gravitation be discovered; should it be found possible to make the ether react upon matter; should radium hereafter be produced by the ton, instead of by the milligramme; should some metallic alloy be found having ten times the tenacity and rigidity of steel—all our forecasts relating to future possibilities in the application of power would have to be revised.

But we must note that the present efforts of inventors are not taking this direction. They are accepting physical principles and the facts of engineering as they now stand, and are not seeking to discover new sources of radium, to find new alloys, or to bring out laws of nature hitherto unknown. Our forecast must therefore be based upon the present state of science, and can relate only to what is possible through invention being continued on lines it is now following. I enter this caveat not because there is any great probability of an epoch-making discovery in any of the directions just mentioned, but to define clearly the ground for our conclusions.

When we study progress in the application of power from this point of view, we see that it has, during the entire nineteenth century, been approaching fairly well-defined limits, which can never be extended except by some revolutionary discovery that has not yet cast even its shadow be-

fore. With every step forward we have come nearer the limits, thus leaving less room for future advance. There is a certain amount of energy stored up in fuel which may possibly be utilized in the application of power. The engineer of to-day who reads Dickens's graphic description of the steamship in which he first crossed the Atlantic, with flame issuing from the top of her funnel, will appreciate the enormous waste of power that must have been incurred. The problem of invention from that time to this has been to save as much as possible of this wasted energy and apply it to the blades of the screw propeller. There is also a limit to the power which can be exerted by an engine of given weight. Inventions of lighter and lighter motors have been steps toward this limit, which is probably not yet reached. Yet we are so much nearer to it in the engines which to-day run Count Zeppelin's airship, and the flyers of Farman and Wright, that we may safely say that it is at least being approached.

The resistance and supporting power of the air are yet more determinate. No progress in invention will increase the weight which a given volume or surface of air will support at a given speed, nor can the resistance experienced by a surface in moving through the air ever be reduced below the point set by physical theory. With these conditions in mind we are prepared to inquire what form an aerial vehicle may take, and what results may be expected from it.

II.

Two systems of navigating the air are now being developed, which are radically different—we might almost say opposite—in their fundamental principles. One is that of the flying machine, which is supported by motion through the air as a bird by its wings. The only form of flyer yet found feasi-

ble is the aeroplane, which is supported by a rapid movement of translation, and of which all flying machines now being tried are samples. Of another form, a flyer carried by revolving wings, I need not speak in detail, because success in this form has not yet been reached. Whether it does or does not hereafter supersede the aeroplane, the principle of support through motion alone is common to both.

The other form is the airship proper, floating in the air by its own buoyancy, and not held up by propulsion. It is, in fact, the dirigible balloon, so enlarged and perfected that the term airship may well take the place of balloon in discussing it. For conciseness I shall use the terms "flyer" and "airship" in comparing these two forms of aerial vehicle.

It is much easier to point out the limits to the development of the flyer than to that of the airship. There are several drawbacks to every form of flyer, either of which seems fatal to its extensive use, and which taken together throw it out of the field of competition. One of these is inherent in the theory of its support by the air; the others are purely practical.

Being, as it were, supported upon the air, it must present to the latter a horizontal surface proportional to the entire weight to be carried, including motor, machine, and cargo. If one square yard of surface can be made to carry a certain weight at a certain speed, one thousand square yards will be required to carry one thousand times that weight. Any enlargement of the machine must therefore be in a horizontal direction. The estimate of weight must be so much per square yard of horizontal surface; an addition of weight in the vertical direction can never be possible. Hence, if any enlargement of the flyers is ever made—for example, if they are to carry two men instead of one, as at present—it

must be through enlarging their superficial extent in the same proportion. Reflecting on the present extent of the successful flyers, it will readily be seen that a practically unmanageable area of supporting surface and a consequent weakening of the machine will be required for any important enlargement. Whether the limit be one, two, or three men, every extension of it must, to secure the necessary strength, involve increased weight per square yard, which will be less and less compatible with its performance.

A practical difficulty which seems insuperable is that the flyer, supported only by its motion through the air, can never stop in flight to have its machinery repaired or adjusted. It makes toward the ground like a wounded bird the moment any stoppage occurs. The navigator may be able to guide its fall, but not to prevent it. He can only choose the point of dropping among trees, houses, rivers, or fields which, within a limited area, will be productive of least damage. No engine yet built by human skill, much less the delicate motors necessary in the flyer, can be guaranteed against accident. The limitations upon a vehicle of transportation, the slightest accident to whose propelling machinery involves in all probability the destruction of the vehicle, as well as danger to the lives and limbs of the passengers, need not be dwelt upon. If a steamship were liable to go to the bottom the moment any accident occurred to her machinery, the twentieth century would have come upon us without steam navigation on the ocean.

Another serious limitation upon the flyer is that it cannot be navigated out of sight of the ground, and must descend at once if enveloped in fog. This necessity arises from the deviation in the apparent direction of gravity which must be produced by any change in the inclination of the supporting surface,

through the consequent acceleration or retardation of the speed. The principle at play is shown in an observation which may be made whenever a railway carriage at high speed is brought rapidly to a stop. A passenger standing well balanced on his feet during the period of retardation will find himself suddenly falling backward at the moment of the complete stop. He has been leaning backward while fancying himself erect.

Neither of the two drawbacks first mentioned is incident to the airship. Her buoyant power is proportional to her cubical contents, and not merely to the surface she presents to the air. She can therefore be enlarged in length, breadth, and thickness, instead of being confined to length and breadth, like the aeroplane. Floating in the air, she may possibly stop for repairs, which the flyer never can. This faculty carries with it a wide range of possibilities, how little soever may be the probabilities of their realization. A comparison with the steamship will show them in the clearest light.

As the ocean steamship has increased in size, she has also increased in speed. At the present moment the two largest ships afloat are also those of highest speed. It may have seemed to many, as it long did to the writer, that in this there was a constantly increasing sacrifice of power. The larger the ship the greater the power, and therefore the greater the consumption of coal, required to drive her at any given speed. It might, therefore, be felt that considerations of economy would suggest that the smaller ships should be built for high speed rather than the larger ones. But the advance is in reality upon correct lines. Leaving out the practical limits set by such conditions as the depth of harbors and the time required to load and unload, the larger the ship the more economically the application of power in driving her

at any given speed. The principle involved is simple. The model remaining the same, the carrying capacity increases as the cube of the length. But the resistance of the water, and therefore the power of the engine and the consumption of coal, increases only as the square of the length. Hence the larger the ship the more economically can a ton of cargo be carried at a given speed.

The same principle applies to the airship. The larger she can be built, the more economically she can be driven when we measure economy by the ratio of carrying power to cost of running. The limits to her possible size cannot be set by any principles of physical science. The question is simply one of constructive engineering—How large can we build her and still keep her manageable?

This view is not presented as opening out a vista of unlimited progress, but rather to avoid ignoring any possible line of progress. An airship of a size not yet dreamed of will require new devices for the application of power which may be utilized in our present system of land and ocean transport. We can never do away with the difference between the ground, the ocean, and the air as supporting agencies, and the solution of the problem must, in the long run, turn upon their respective advantages and drawbacks.

III.

Among the ideas which, inherited from our ancestors or formed in childhood, remain part of our nature through life may be placed the notion we so universally entertain that, if we succeed in navigating the air with a fair approach to safety, an important end will be reached. This notion must have been as deeply felt as one so purely speculative can be from the time that men reflected on the flight of birds. If any child to-day grows up without

many a time longing for the power to fly, and reflecting how much easier its possession would make it to pass from country to country, it must have been from some unusual power of restraining from useless speculation. The notion, justified perhaps in our ancestors, that flight through the air has some inherent element of superiority to locomotion on the surface of the earth or ocean is still a feature of our common nature.

Let us lay aside this notion long enough to inquire whether the cheapening of transportation by steam power during the last century has not practically done away with all the supposed advantages of flight through the air, which appeared in so strong a light to former generations. Probably few of us realize in our daily thought that it now costs less to transport any small light article—a pair of shoes for example—across the Atlantic than to deliver them from a shop to the house of a customer in New York or London. Careful thought may show us that, leaving aside exceptional cases, like that of striving to reach the Pole, the substitution of aerial for land and water transportation is at bottom the substitution for the solid ground of so imperfect a support for moving bodies as the thin air.

We can best judge this view by coming down to concrete facts. Let us take the case of an express train running from London to Edinburgh. When going at high speed the main resistance it has to encounter is that of the air. It is in overcoming this resistance that the greater part of its propulsive power is expended. Now, imagine the highest possible perfection in an aerial vehicle which shall carry passengers and mails from London to Edinburgh in competition with the railway. If the surface presented to the air by the vehicle were no greater than that presented by the train, it would still encounter a large fraction of the same

resistance when going at the same speed. But, as a matter of fact, owing to the necessary size of the flyer, the resisting surface would be vastly greater than in the case of the train, and the means of overcoming this resistance by adequate propulsive power would be more imperfect and expensive. In the case of the train the wheels of the engine are made effective by the reaction of the solid ground. In the airship the reaction is only that of the air, a condition which necessitates propelling surfaces of a superficial extent greater in proportion.

Needless to say, the consumption of fuel must be increased in proportion to the power to be expended. The Royal Mail airship will therefore have to consume several times as much coal as the engine of the Flying Scotchman if she is to carry the same burden. What the multiplier may be admits of at least an approximate estimate, but it may be feared that the most careful mathematical computation would show a disparity so extravagant as to deaden interest in the subject.

This view may appear in conflict with the principle already mentioned, that increased economy will be gained by increasing the size of the airship. But we must remember that the economy is measured by the ratio of cargo or other weight carried to fuel consumed. It must always cost more to run a large ship than to run a small one. Economy is gained only when we increase the dimensions of the airship so that she will carry more cargo than the ocean steamer or the railway train. The projector of an airship who would successfully compete with the steamship in ocean traffic must not permit his modesty to suggest beginning with dimensions less than a length of half a mile and a diameter of 600 feet. His ship might then be able to carry some 10,000 tons of cargo or 15,000 passengers, and it would be only through

these great possibilities that economic success would be reached. If this requirement seems extravagant or impracticable, the fault lies in the problem itself, and not in our treatment of it.

In order to present the case in another wholly practical aspect, it may be remarked that, no matter how high the speed of the airship, the wind would affect it by its entire velocity. A normal speed of 100 miles an hour would be reduced to one-half by meeting a wind blowing in the opposite direction at a rate of fifty miles an hour. It is true that a favoring wind at the same speed would accelerate its motion, and enable it to reach its destination more quickly. But it is needless to describe the practical drawbacks of so uncertain a system of transportation.

When we look carefully into the matter, we see that these are by no means the only drawbacks inherent to the general use of the airship. In addition to her being carried out of her course at the rate of twenty or thirty miles an hour by a wind blowing across her line of motion at this not unusual speed, comes the difficulty, we might say the impossibility, of finding her destination or effecting a landing in foggy weather. To appreciate these drawbacks it must be remembered that they do not arise merely from imperfections in the present development of the airship, but are inherent in any form of aerial vehicle, no matter to what degree it may be perfected. Unless the science of the future discovers some form of action between material masses, of the practical attainment of which the science of to-day gives not even a hint, any method of aerial transportation must be subjected not only to the drawbacks we have mentioned, but to a number of others which we refrain from setting forth merely because the items are all on the debit side.

But let us also in fairness see what

is to be placed on the credit side. First and almost alone among these must be in the reader's mind the fact that steam transportation on land requires the building of railways, which are so expensive that the capital invested in them probably exceeds that invested in all other forms of transportation. Moreover, there are large areas of the earth's surface not yet accessible by rail, among which are the two Poles and the higher mountains. All such regions, the mountains excepted, we may suppose to be attainable by the perfected airship of the future.

The more carefully we analyze these possible advantages, the more we shall find them to diminish in importance. Every part of the earth's surface on which men now live in large numbers, and in which important industries are prosecuted, can be now reached by railways, or will be so reached in time. True, this will involve a constantly increasing investment of capital. But the interest on this investment will be a trifle in comparison with the cost and drawbacks incident to the general introduction of the best system of aerial transportation that is even ideally possible in the present state of our knowledge.

Let us stop a moment to see the framework of the reasoning on which our conclusions are based. We have not taken either the airship or the flyer of to-day as the measure of what is possible in the future. We have not dwelt upon the great ratio of failure to success or of labor cost to results in the trials hitherto made. The vehicle we have had in mind, and of which we have shown the shortcomings, is an ideal one to be realized, if possible, in the future—a vehicle in which every part shall be so nicely adjusted that the maximum of efficiency shall be reached with the least possible weight,

and the best devices used to diminish friction and insure the application of all the power available in the fuel to the purpose of driving. We have allowed no practical questions of construction to interfere with success. We have shown what would be the more than colossal dimensions of an airship that could successfully compete with the ocean steamship of to-day, without inquiring into the practicability of building her or the problem of managing her in an ocean storm. May we not say, as the outcome of these reflections, that the efforts at aerial navigation now being made are simply most ingenious attempts to substitute, as a support of moving bodies, the thin air for the solid ground? And is it not evident, on careful consideration, that the ground affords a much better base than air ever can? Resting upon it we feel safe and know where we are. In the air we are carried about by every wind that blows. Any use that we can make of the air for the purpose of transportation, even when our machinery attains ideal perfection, will be uncertain, dangerous, expensive, and inefficient, as compared with transportation on the earth and ocean. The glamor which surrounds the idea of flying through the air is the result of ancestral notions, implanted in the minds of our race before steam transportation had attained its present development. Exceptional cases there may be in which the airship will serve a purpose, but they are few and unimportant.

The attitude of the writer is not that of an advocate conducting a case against aerial navigation and leaving it to the other side to present its own views. He cheerfully admits the possibility of exceptional cases in which the airship may be a more effective means of attaining an end than any other yet at our command. The most promising result now in sight is the reaching of the Poles. It may be

feared that the failure of the ill-fated Andre has cast too dark a cloud upon his enterprise. It is not unlikely that Count Zeppelin's balloon, when improved, will be the first vehicle actually to carry a human being to the North Pole. If nothing more interesting than fields of ice is found there, the result will still be of value by putting an end to a useless expenditure of energy which has been going on for generations. Let us, then, permit the airship to gain all the prestige it can by being the first agency to make the Pole accessible.

IV.

The possibility of using the airship in warfare has already presented itself so strongly to the minds of men, especially in England, that it may well be included in our inquiry. The power of flying through the air was always possessed by the superhuman beings, animated by malevolence, who held so prominent a place in the imagination of our ancestors. It is, therefore, only natural that, when an airship is conceived as flying at pleasure over land and sea, she is pictured in our minds as an engine for scattering death and destruction by the explosion of bombs, unless her course is stopped by an enemy possessing sufficient power to engage in conflict with her. Let us, then, inquire to what result an appeal to reason and fact will lead us in estimating the efficiency of an airship in carrying on military operations.

Her possible usefulness in reconnaissance, though easily exaggerated, is too obvious to need discussion. The really vital question is that of her efficiency in conquering a country, especially an island like England. The ways in which the airship might be used in war are numerous. I will, therefore, first summarily examine some points which will limit our inquiry.

Enough has already been said to

show that the flyer is out of the question. The airship proper, or enlarged balloon, is the only agency to be feared. Her vulnerability is obvious. Her size is so great as to make her an easy target; her sides so thin that she can be pierced through and through by any bullet, even that of a revolver; and her interior composed of gas so inflammable that an explosive bullet would reduce her to a mass of flame. A single yeoman armed with a repeating rifle could disable a whole fleet of airships approaching the ground within range of his station before the crews could even see where he was or what he was doing. How many such vehicles would be required to carry and land, with all its accoutrements, an armed force sufficiently large to be a menace need hardly be computed. To carry out the enterprise the fleet must either operate at night or choose an hour when the country is enveloped in fog. Saying nothing of the difficulties inherent in navigating the air and of choosing a point of landing when the ground is invisible, it would be easy by a system of searchlights to make a landing as difficult at night as during the day. Should advantage be taken of a smoky and foggy day, with a view of landing without being seen, the difficulties would be as great on the side of the aerial vehicle as on that of the defence against it. The navigator of an airship must at all times be at the disadvantages already mentioned, one of which is that of being always carried with the wind, and of knowing nothing of his motion at the moment except what he can learn by observing the ground. He would therefore be unable to find his way in a fog. Above the region of fog and cloud he might in an uncertain way be guided by observations on the sun or stars, but this would be much more uncertain than in the navigation of a ship, owing to the want of a clear horizon. The more closely one ana-

lyzes the conditions and the requirements of an invading force, the more clearly it will be seen that the idea of invading England with a formidable army borne in airships is quite chimerical. Compared with what would be the outcome of such an enterprise should it ever be undertaken, the Spanish Armada was a miracle of success.

It is, therefore, by operations conducted so high above the ground as to be outside the range of bullets that the airship must be used in military operations, if at all. The serious question is, In what way could a fleet of airships be used in conducting military operations or aiding an invading army by operating at this height? We can scarcely conceive of her as a fighting engine at any height. It is barely possible that, if made of sufficient size, the lightest field artillery might be fired from her. But her offensive power would be so insignificant that we should waste time in attempting to estimate it. Of course she could do some damage to a place like London by dropping the smallest bombs into it; but this would be a wanton proceeding, of no avail in conquering a country, and therefore not permissible by the rules of modern warfare.

The only rational fear to be entertained is that a fleet of airships might drop explosive bombs into fortifications and upon the decks of ships of war. The projectiles could not be fired—that would not only be enormously expensive, but useless, because dropping them would be as effective as firing them. On the defensive side, the construction of a machine gun which, pointed vertically, could fire a shot to a height of two miles is so simple a matter that I assume this to be the height at which the aerial ship will have to operate. Let us, then, inquire what England may have to fear from explosives dropped upon her forts and ships from a height of two miles in the

air. We must remember, at the outset, that the air is rarer by about one-fourth at this height than at the earth's surface. This reduces in a yet greater proportion the possible weight of projectiles which an enemy could carry. If we reflect that, making allowance for the necessary weight of a balloon, its gas and its accoutrements, every ton carried at a height of two miles would require more than 5000 cubic yards of gas in the balloon, we shall see that the task of seriously injuring a modern fortification by dropping explosives into it will be at least an expensive one.

But how is it in a case of a ship-of-war? Among the conditions of the problem would be these. The time required for a bomb to fall from a height of two miles is between twenty-five and thirty seconds, depending upon the resistance which it experiences from the air, as compared with its size and weight. During this time the ship, if in motion, would have moved away by her entire length, and would therefore escape the missile, unless due allowance had been made by the attacking power for her motion. This might be possible; but, even if it were, a still greater difficulty would be found in the fact that the balloon is itself in motion, because it floats in the moving air. True, the motion of the wind would be neutralized if the balloon steered against it with the proper speed. But the navigator of the balloon cannot determine the direction of the wind, as can the sailor. The only way by which he can know how a wind is carrying him is by observations on the ground below, presumably on the ship he desires to attack.

Now let us estimate the degree of precision required in the operations. Let the reader imagine himself looking down vertically from a scaffold swaying in the wind at the pavement, fifty feet below. On that pavement imagine

an object, two or three feet in length and from four to six inches in breadth, swaying about in such a way that he can scarcely judge when, if ever, it is below his station. Then let the problem be, with the wind blowing, to drop a bullet in such a way that it shall strike the object in its fall. By the most skillful arrangements he might perhaps hit it once in forty or fifty trials. The problem of the balloon would be of this same kind, except that nearly half a minute is required for the missile to reach the object. We may admit that a dirigible balloon, carrying a hundred bombs of a ton each, and taking her position two miles above a battleship, would probably succeed in dropping one, two or three upon her deck. Would this disable her or seriously impair her fighting power? A torpedo discharged under water against the side of a ship sinks her, partly from being under water, and partly because the water reacts in the explosion. But the torpedo exploding on the deck has nothing but the air to react against it, and the limit of damage would probably be a hole or fracture in the deck. We need not be experts to know how small is the area of damage in an explosion of dynamite.

Bearing in mind all these considerations, it would appear that England has little to fear from the use of airships by an enemy seeking to invade her territory, even if she tamely allowed him to do his worst, which she need not. The key to her defence is the necessary vulnerability of a balloon. In this respect the latter is so completely the opposite of every other engine of war that it requires a little reflection to appreciate the case. A conflict between two aerial navies composed of balloons belongs to the realm of poetry. Most extraordinary would be the disparity of force if mutual annihilation were not the speedy result

of an attempt to engage in a conflict. Each side could continue firing a few moments after being riddled, no matter how great the damage sustained, but the work of those moments would suffice to send both combatants on their way to earth or ocean. If explosive bullets were used the result would be yet more tragic.

I assume that, should England ever be threatened with attack by an aerial navy, she would not follow the example of the perhaps mythical and certainly chivalrous French battalion, which extended to the enemy the invitation: "Gentlemen, please fire first." The possible availability of the perfected airship, if she ever becomes a reality, in rendering possible an excursion into the atmosphere above an enemy's country cannot be denied. But when this is done, the task of firing a single explosive bullet into each balloon of an entire navy is so much simpler than that of dropping explosives heavy enough seriously to damage a modern fortification or battleship, that common-sense will choose this policy in preference to any other. If a single airship or, to guard against accident, two or three, can, by watching a favorable opportunity, destroy an aerial navy in its own country in any stage of its construction, may we not assume that no Power is going on to make any great effort to develop such a navy after the possibilities are fully appreciated?

In presenting the views set forth in the present article the writer is conscious that they diverge from the general trend, not only of public opinion, but of the ideas of some able and distinguished authorities in technical science, who have given encouragement to the idea of aerial navigation. Were it a simple question of weight of opinion he would frankly admit the unwise-
dom of engaging in so unequal a contest. But questions of what can be

done through the application of mechanical power to bodies in motion have no relation to opinion. They can be determined only by calculations made by experts and based upon the data and principles of mechanics. If any calculations of the kind exist, the writer has never met with them, nor has he ever seen them either quoted or used by any author engaged in discussing the subject. So far as his observation has extended, the problem has been everywhere looked upon as merely one of experiments ingeniously conducted with all the aid afforded by modern apparatus. He has seen no evidence that any writer or projector

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has ever weighed the considerations here adduced, which seem to him to bring out the insuperable difficulties of the system he has been discussing, and the small utility to be expected from it even if the difficulties were surmounted. If he is wrong in any point—and he makes no claim to infallibility—it must be easy to point out in what his error consists. He therefore concludes with the hope that if his conclusions are ill-founded their fallacy will be shown, and that if well-founded they may not be entirely useless in affording food for thought to those interested in the subject.

Simon Newcomb.

THE KING AND THE CONSTITUTION.

Seven years have passed since King Edward VII. ascended the throne. The retrospect is not unpleasing. Each of the seven years from 1901 to 1908 has seen a steady increase in the general appreciation of the sterling qualities which, before his accession, were known only to a few. The visit which His Majesty paid last June to the Emperor of Russia may fully be regarded as the culminating point—up to the present—of his reign. Never before were the supreme qualities of the King—his tact, his bonhomie, his quickness in seizing the exact moment for saying and doing the right thing, more conspicuously illustrated. The happy thought that led to the appointment of the Russian Emperor as an Admiral of the British Navy was an admirable example of the right thing done at the right time, upon which the King deserves the congratulations of every one. The Reval visit, as an international and family picnic, was a brilliant success, a success which was not marred by a single false note, and which is remembered with pleasure by

all, whether Russians or English, who were privileged to be present. At Reval the King was at his best, and the occasion supplies a suitable opportunity for a brief survey of his activity abroad during the first seven years of the reign. If in the record there may appear something to regret, it is but as the shadow which brings into clear relief the light-points in the story. And whatever there may be to regret is not so much on account of anything His Majesty has done or left undone, as because of the way in which some injudicious courtiers by flattery and foreign enemies animated by envy and dread have combined to create around his beneficent activity a distorting nimbus of false glory, which, while apparently magnifying the importance of the Crown, is directly calculated to bring His Majesty into discredit and to weaken the foundations of the throne.

The English folk have ever had a loyal passion for their temperate kings. But, being as utilitarian as they are sentimental, they have specially prided themselves upon their success in ex-

ploting the monarchy in the interests of the nation and the Empire. Mr. Gladstone, in a familiar passage, claimed "the great political discovery of the Constitutional kingship" for the English race, and predicted that "another fifty years may see all Europe adhering to the theory and practice of this beneficent institution, and peacefully sailing in the wake of England." The prophecy bids fair to be fulfilled--with the exception of France. Norway, the most advanced of European democracies, has deliberately founded a new throne for King Edward's son-in-law rather than create the Republic to which its foremost citizens were publicly committed. In Russia, the most autocratic of Empires, the evolution of the Constitutional monarchy goes on apace. In Portugal even a double assassination of King and Crown Prince merely abolished a dictatorship and restored the Constitution. Not even the disasters of the American war shook the throne of Spain, although its occupant was a boy in his teens. In Italy, Republicanism, once a religious enthusiasm, has become merely the rallying cry of an important party. There has been everywhere in Europe a recrudescence of the monarchical idea, and no one can deny to Edward VII. a large share in raising the prestige of Royalty, until it stands higher to-day in the midst of this democratic age than it did at any time in the nineteenth century. But it is not the monarch as despot, but the monarch as servant that has survived. The modern king may with justice claim with proud humility the title of the Roman Pontiff, *Servus servorum Dei*, substituting *Populi* for *Dei*. It is the peculiar good fortune of our Sovereign to have been dominated from youth up by the motto in the crest of every Prince of Wales, *Ich Dien*. Edward VII. has given a new lease of popularity to the Crown by familiarizing the democracy

with the idea that the King is the serving-man of the State over which he reigns.

It would be wrong to suggest that even for a moment King Edward has forgotten the conditions of that service which he has never ceased to render to the Empire. His honored father, who was not trained in the English school, told him shortly before his death that "to dominate statesmen and to guide affairs were the object and boast of your mother's predecessors," and in no unequivocal language the Prince Consort held it as the natural goal of the Royal ambition to make the throne "the seat of loyalty and power." Fortunately neither by temperament nor by conviction was Queen Victoria's son tempted for a moment to stray along that perilous road, even though the beckoning hand was that of his sire. He realized with a sure instinct that to attempt "to dominate statesmen and to guide affairs" could never be his object, and that even if attained it was more likely to be his bane than his boast. He has completed the evolution of Constitutional kingship by abjuring all attempts to combine in the throne both "loyalty and power." Loyalty on the part of the people is incompatible with the exercise of power on the part of the sovereign. Royal authority, nominally intact, has in reality given place to a moral, not a coercive, influence, which, however, "leaves abundant scope for mental activity to be at work under 'the gorgeous robes of Royalty.'

By an unhesitating recognition of the limitations which, while appearing to weaken, are the real secret of the survival of the Constitutional kingship, our present Sovereign has rendered an inestimable service to the stability of the political system and of the monarchical régime. Not even the lying tongue of lawless rumor has ever whispered the calumny that King Edward

has strayed from the straight and narrow path wherein alone monarchs nowadays can find success. But it is not impossible that from the lofty eminence of the throne King Edward may not have realized the extent to which this perfect loyalty of the Sovereign to the Constitutional tradition has been obscured, to the no small detriment of the throne, by injudicious courtiers in the press at home, and by ill-informed commentators in the press abroad. As the result of their combined, although not antagonistic, activity, the fair image of an ideal Constitutional king actually presented by the King to the world is being obscured and defaced by a kind of Brocken spectre, projected on the misty cloudland of popular ignorance. His Majesty is shown by the phantasmagoria of the press as the master of his Ministers, the director of the foreign policy of his Empire, a monarch who, by the transcendent force of his statesmanship, now governs the nation over which his predecessors were content to reign.

It may be objected that so strange a misrepresentation of the actual facts cannot possibly deceive any intelligent person in the three Kingdoms. Unfortunately, in our country there are many persons not intelligent,—a fact which Carlyle stated with more emphasis. Constant iteration in journals of vast circulation cannot fail to produce some impression upon readers, many of whom still cherish the relics of the Stuarts. At the same time, if the matter only concerned our own country, and the mass of the English people, these remarks would never have been penned. Mr. Gladstone's emphatic words would justify passing over such effusions with contempt. He wrote in 1878:

There can be in England no disloyalty more gross as to its effects than the superstition which affects to assign to the sovereign a separate, and,

so far as separate, transcendental sphere of political action. Anonymous servility has indeed in these last days hinted such a doctrine, but it is no more practicable to make it thrive in England than to rear the jungles of Bengal on Salisbury Plain. (*Gleanings*, vol. I., page 230.)

But anonymous servility has become blatant in these still later days, and it has produced its inevitable consequences in the creation of dangerous misconceptions and mischievous misunderstandings abroad. This is inevitable. For the British Constitution

is commonly seen, by even the most intelligent of foreigners, as pictures are seen in gaslight, with a strong projection of their more glaring colors, and a total, or at best very serious, loss of their more delicate, cool, transparent shadows and graduating touches. (*Ib.*, p. 26.)

Hence, while at home it is perfectly understood by the intelligent that the English Sovereign is, and will always be, a strictly Constitutional monarch, the opinion is almost universal among Continental politicians that it is King "Edouard," and not the Cabinet, who is the decisive factor in framing the foreign policy of Great Britain.

However absurd this delusion may appear to educated Englishmen, its prevalence has done much mischief in the past. It may do more mischief in the future. Incidentally it tends to circumscribe more narrowly than ever the range of action within which our King can give effect to his personal feelings. If His Majesty is regarded as the arbiter of Britain's destinies, the master-director of Britain's foreign policy, it follows as an inevitable consequence that he must no longer permit himself to indulge in likes and dislikes, or even to take part in those family differences which have such a strange fascination for mortal men, crowned or uncrowned.

The writer may be pardoned for referring to one lamentable consequence which has followed from the mistaken belief on the Continent that His Majesty rules as well as reigns in England. The incident belongs to past history, and the only sentiment which its recital will evoke will be one of gratitude that that period of irritation has given place to a happier era of goodwill. Nor shall I presume so far into the *coulisses* of Courts as to venture upon any indiscreet details.

King Edward VII. has now reigned seven years. During three of those years it is notorious that he entertained feelings not too affectionate towards his Imperial nephew at Berlin. Far be it from me to attempt to apportion the responsibility for the misunderstanding which prevailed between these exalted personages. Suffice it to say that for personal and family reasons, which were utterly apart from the interests of Britain or of Germany, the uncle was not on cordial terms with his nephew, and the nephew was equally, not at daggers-drawn, but at pin-pricks with his uncle. It would be absurd to attempt to deny to any Sovereign, merely because he is a Sovereign, the human feelings which appeal so irresistibly to our nature. But as the immediate result of the existence of these personal and family estrangements between uncle and nephew was to set up more or less strained relations between 60 millions of Germans and all the subjects of the British Empire, the most humble and loyal of Englishmen may venture to express a regret that these personal matters could not be treated as mere private affairs. As the result of these purely private irritations, some hundred millions of men spent anxious days and waking nights merely because an uncle and nephew, who happened for the time not to get on together, occupied the thrones of their respective coun-

tries. In olden days a scurrilous jest by one monarch concerning the mistress of another plunged Europe into a bloody war. Surely the moral is inevitable. The tranquillity of realms should not be compromised by the personal differences of their monarchs. It must either be distinctly understood that they are incapable of influencing the policy of their States by their personal likings or dislikings, or they must be absolutely prohibited from experiencing the most universal of human feelings which border on uncharitableness.

The King and the Kaiser, as was publicly displayed last month at Cronberg, are now on the most friendly terms, and we devoutly hope that the pact of family love may never be disturbed even by a lovers' quarrel. But the poison engendered in the minds of their respective subjects continues to work. The popular German idea is that King Edward entertained a hostile animus to his nephew which inspired every act of British foreign policy. If they had rightly understood, what his subjects know, that the course of British foreign policy is no more influenced by His Majesty's personal feelings or family differences than the rising of the Nile is affected by the monuments of antagonistic dynasties that adorn its banks, Germans might have judged English policy upon its merits. But as they misunderstood this fundamental fact, they naturally found the secret of every act of British statescraft in His Majesty's imagined determination not to be outdone by his nephew.

Hence there has arisen in the German mind one of the most fantastic and preposterous myths that ever demonstrated at once the creative powers of the popular imagination and the dimensions of the gullet of popular credulity. It is a popular impression in Germany that Edward VII. is not

merely the Richelieu of the twentieth century, but that he is constantly preoccupied in weaving plans of Machiavellian deviltry for the purpose of weakening, injuring and, above all, of isolating the nation which owes allegiance to his nephew. What is believed to be the fact has often more influence in politics than the fact itself; and the real King of England is of less importance to the peace and tranquillity of Europe than is the imaginary Edward VII. as he is pictured daily in the German press, a sinister figure dominating the European situation, who spends his days and nights in spinning, like some infernal spider, the meshes of the net in which Germany is being encircled. His Majesty is not a prince with the intellect of a Richelieu. He possesses neither the overwhelming brain, nor the dominating will, nor the calculating ambition of the great Cardinal. He aspires as little to possess the conscience or the ethics of Machiavelli as to inherit the ant-like industry of his illustrious father. His genius does not lie in politics. He is an inveterate traveller, and much enjoys change of place and scene. He retained after his Coronation the genial, pleasure-loving disposition of the Prince of Wales, and used it with sense and tact to aid the policy of his Foreign Secretaries. But these things, which are matters of common knowledge to us in England, are unknown to the believers in the myth of modern Germany concerning the Bismarckian genius and dogged diplomacy of "Onkel Edouard."

This myth continues to exert a mischievous influence upon contemporary politics. When His Majesty, in fulfilment of the plainest of his duties, alike as a Sovereign and a man, undertook to visit the Emperor of Russia, this visit of courtesy and congratulation was the occasion of an outburst of comments in many German papers, which suggested the need for writing this article.

It was openly asserted or cunningly suggested that His Majesty's sole object in visiting his relative in Russia was the welding of a ring of hostile alliances around Germany. It was seriously argued by journalists, at present outside lunatic asylums, that His Majesty was going to Reval in order to conclude a triple alliance, binding England, France and Russia to make war on the Germans by land and sea. It was even asserted that His Majesty was prepared to purchase the Russian alliance by making over to the Tsar the reversion to Constantinople and the Asiatic possessions of the Sick Man. To give substance to these alarms, they printed a garbled version of the ordinary parade-ground oratory of the Kaiser, as if it were a challenge to all to come on, and a reply to the attempt to *einkreisen* Germany. A sombre and sinister, but sonorous, throb of the war drum vibrated through the Fatherland. As if from sheer *schadenfreude*, some English journalists eagerly seized the occasion to confirm and intensify the uneasy feeling of their German colleagues. *The Throne and the Country*—a journal probably unknown to the throne and but little seen in the country—after declaring that the visit involved questions of high policy, proceeded to say:

No one has done more than the King towards the solidification of England's interests on the Continent; and this last act may justly be regarded as the coping stone of the splendid structure of diplomacy which has been the means of curbing effectually the soaring ambition of Germany by securing the friendly attitude of the two Powers which flank her on either side.

It would be ill-advised to ignore as beneath contempt such a revelation of the extent to which the popular delusions as to His Majesty's efforts to control British policy and of the anti-German motive of his every action

have cankered the mind of Germans and to a certain extent bemused the brain of the Germanophobes at home. It is a symptom of the deep-seated malady which afflicts Europe, whose seriousness our King, of all men, is best able to diagnose.

What is that malady? What causes the Germans every now and then to burst out into what Prince von Bülow called recently "the defiant instinct of self-preservation"? Why is it that the Germans are perpetually discussing the possibility of the necessity for striking down this, that or the other Power whose ambitions seem to menace them? It is not that the Germans are unethical. That they appear to be so is due to the fact that their ethics are those not of the position which they actually occupy, but those of the position which they think they occupy. When two men are swimming for their lives in deep waters, the most austere moralist would perhaps not severely blame a man for choking his own brother in order to release the grip which would have cost his own life. The "defiant instinct of self-preservation" found free and full expression when Frederic the Great was building up the Prussian kingdom. It found hardly less defiant expression when Bismarck was building up the German Empire. The recently published Memoirs of Prince Hohenlohe reminded Europe rather painfully of the absence of any controlling principle save that of the "defiant instinct of self-preservation" in the state-craft of the Iron Chancellor. Such a non-moral conception of public right and of international law is inevitable when nations are, or think they are, in what may be called the struggle-for-life-in-deep-water stage. What Germans need to discover is that they have now well emerged from that stage. The alarms and dreads in which many Germans pass their lives are an atavistic sur-

vival from an outgrown past. But so long as men imagine they are still living in the peril of their lives in which their ancestors passed their existence, they will relapse into the manners and morals of those ancestors. Carry the alarms a little further back, and cannibalism could be justified by the "defiant instinct of preservation" as conclusively as many of the policies eagerly recommended by some more or less crazy journalists in Germany and England.

All the unrest of Europe arises from fear. Perfect love casteth out fear, for fear hath torment. It is not less true that fear casts out not only love, perfect or imperfect, but in its torment banishes peace, and insists upon the negation of all moral principle in the relations of nations. Hence, to secure the peace of Europe, the supreme object should be to cast out fear, to reassure the timorous, to encourage belief in the strength of the national position. King Edward VII. has recognized and acted upon this truism in the case of many nations. But, most unfortunately, the one nation of all others which is most morbidly fearful of an attack on two fronts has, by some foolish English journalists and statesmen, been treated otherwise. There has been some appearance of a design to isolate Germany, to expose her helpless to a coalition of adverse Powers, and so it has come to pass that our King has been, and is, regarded in Germany as the master spirit of the deadly competition.

It may with reason be retorted that the King is not responsible for the morbid imaginings of his more harebrained subjects. But during some of the seven years of his reign there has, perhaps, not been sufficient effort on his part to allay the alarms of the Germans. While preserving an attitude of scrupulous correctitude in his relations to other nations, it is difficult to

suppress a feeling that he may have secretly enjoyed the consciousness that the Germans were quite unnecessarily agitating themselves about his action. Such a course of conduct, while natural enough, is too dangerous to be indulged in by a sovereign. An ingenious novelist, regardless of Weismann, has written a romance suggested by the theory that the horrible sensation of falling through space, so familiar in nightmare, is a revival of the memories of adventures experienced by our arboreal ancestors. The Germans are haunted by the constant revival of memories of a much less distant past. Most of the utterances which give so much offence and do so much to embitter the relations between the two nations are wrung from our German cousins while suffering from that kind of nightmare. I venture to submit that it would be a task worthy of the most exalted position to discourage the engendering of nightmares and to avoid actions which are likely to give the Germans an attack of the fidgets.

By the laborious efforts of a group of publicists, the English Sovereign has been elevated to the position of Hobgoblin-in-Ordinary to the German people. If German mothers do not frighten their children to sleep by the name of "Onkel Edouard," no monarch is more constantly employed as a Bugaboo in many German newspapers. What I venture humbly to suggest is that the King, bearing that fact in mind, should scrupulously refrain from any action which might give excuse for the Hobgoblin theory or increase the effectiveness of a Bugaboo, whose chief use is to scare the German tax-payer into voting money for the navy. I will give an instance.

Than the visit to Reval nothing could be more fitting, nothing could be less fraught with offence to Germany. But its sudden announcement scared the alarmist press of Germany as if it were

a bolt from the blue. If it had been preceded or even accompanied by explanations from the Sovereign and from his Ministers, carefully framed so as to disarm the suspicious and reassure the timorous, Europe might have been spared a good deal of uneasiness. Even after the visit was announced no pains seem to have been taken to allay German anxiety. On the contrary, much was done which had the effect of intensifying it. The central source of the alarm of the Germans springs from their belief that King Edward, of whose almost supernatural ability in political manœuvres they have fully persuaded themselves, is his own Foreign Minister, pursuing with relentless persistence a personal policy aiming at the isolation and ultimately at the destruction of Germany. The one great check upon this fantastic theory is the assertion of the Constitutional doctrine that His Majesty neither has, nor can have, nor desires to have, any foreign policy excepting that for which the English Cabinet and the Foreign Minister are responsible. As if to weaken the salutary influence of this consideration, the King was allowed to proceed to Reval unaccompanied by any Minister of State. The Tsar was attended by M. Izvolsky and M. Stolypin. King Edward was unattended by a single responsible Minister.

I am aware that for this apparently deliberate but obviously inadvertent confirmation of the German belief in a malevolent, Machiavellian personal policy on the part of the King, the blame must constitutionally be laid at the doors of the Secretary of State or of the Cabinet. I am not concerned with the author of the blunder. But it is to be regretted that Sir Edward Grey's attention was not aroused to a sense of his duty in this matter. The reason probably is that it was wished to minimize the political significance of the Reval visit, at which no business was

to be transacted calling for the presence of a Minister. The plea may be admitted, but nevertheless if so the result was exactly the opposite to that which it was desired to attain. The inference drawn in Germany was not that His Majesty was enjoying a family meeting in the Baltic, but that the business in hand was so mysterious, and so personal, that Ministers were purposely not allowed to be in attendance. It is true that the King was accompanied by Sir Charles Hardinge, but it can hardly surprise any one that the Germans fail to take Sir Charles Hardinge seriously when he is put forward as an equivalent for an absent Secretary of State and Cabinet Minister. His presence, indeed, emphasized the significance of Sir Edward Grey's absence; for he is believed in Germany to be the King's factotum, his political private secretary, with no other purpose in life than that of anticipating His Majesty's wishes and obeying His Majesty's will.

Even this was not all. His Majesty was accompanied to Reval by Admiral Sir John Fisher and by General French, one of the most distinguished officers in the British Army. Why, asked the Germans, did the King take the heads of the fighting services to meet the Emperor unless some naval and military alliance was toward? The answer which satisfies Englishmen, that Fisher and French are invaluable ingredients in a picnic party, is angrily rejected by our suspicious cousins. They regard Sir John Fisher as the most dangerous man in the British Empire. He is believed to lie awake o' nights planning how to repeat Copenhagen at Kiel, and when he sleeps he dreams of new monsters of the deep which will make even the German Dreadnoughts as obsolete as the Roman galleys. That such an ogre should be the most delightful companion on a sea trip, that he has the charm of a

schoolboy and the zest for dancing of a girl of eighteen, that he is as *facile princeps* in the ball-room as on the quarter-deck, and that it was his social qualities as an ideal companion and conversationalist rather than his naval genius that secured him the honor of a command to accompany the King is frankly incomprehensible to the average German. The Kaiser, who knows Admiral Fisher, and who also knows his uncle, would find no difficulty in accepting this explanation. But the majority of Germans have not these advantages.

The official communiqué published by the German Government, rebuking the methods, false and unnatural, employed to disturb the "confidence and calm which alone are worthy of a great and peaceable nation," says:

It should not be forgotten that a businesslike and sound solution, to achieve which is the common interest of all the Powers, is not facilitated by nervous and exaggerated enumeration of possible dangers.

Therefore the supreme necessity on the part of all concerned is to avoid giving occasion for nervous alarms. It is idle to say that there is no justification for their fears. When His Majesty's chauffeur has to pass a frightened horse in a narrow road, he does not sound his gong and increase his speed because the horse has no reason to be alarmed. On the contrary, he goes as quietly as possible, recognizing that the unreasonable nervousness of the horse is a fact in nature to be reckoned with, allowed for, and provided against. It might be well, in dealing with Germany, to be as prudent, as cautious, and as practical as would the chauffeur.

King Edward, at Reval, referred, in a phrase which has since made the tour of the world, to his confident expectation that the meeting would "con-

due to the satisfactory settlement in an amicable manner of some momentous questions in the future." We all hope that the anticipation may be realized. But we cannot shut our eyes to the fact that its realization is more likely to be retarded than to be promoted by emphasizing the increased ability of the English and Russian Empires to get their own way as the result of their understanding. "Momentous questions" in the modern sense can only be settled by general agreement. Any apparent desire to settle things by dual or triple understandings challenges the uninvited parties to trip up the proposed arrangement. The Morocco trouble sprang directly from an agreement between a group of the Powers, to which some of those who afterwards met at Algiers were not parties.

It is a homely adage that it is impossible to eat one's cake and have it too. So it is impossible to utilize the Monarch as *Commiss-voyageur extraordinaire* of the British Empire without exposing ourselves to the risk of having his personal functions exaggerated to his detriment and to ours. That the King has no personal policy as distinct from that of his official advisers is so obvious that it is almost an insult to assert it. No one likes to have to declare that he is not addicted to the stealing of silver spoons. But when our over-zealous friends and envious foes alike declare that we are experts in the appropriation of spoons, even such a disclaimer may be necessary. That His Majesty takes no personal part in the negotiations of Anglo-Russian Conventions and the like is equally obvious. Yet journals boasting an immense circulation speak of Sir Edward Grey as "ably seconding his Sovereign." The fact is that even the great services which His Majesty is in a position to render to the cause of peace are endangered by such an in-

version of parts. The King may be our Diplomat-King, but kings are only available as diplomats when they are associated with the policy of the Secretary of State for Foreign Affairs. Even if the policy of Ministers had been originated by His Majesty, the more necessary it would be, in the interest of the Crown itself, that no credit should be claimed for the Sovereign. Credit cannot be claimed when a policy succeeds without discredit attaching to the originator when that policy fails. If the exclusive responsibility of the Minister is impaired, it is disastrous for the King. "Sole action, for the Sovereign," said Mr. Gladstone,

would mean undefended, unprotected action—the armor of irresponsibility would not cover the whole body against sword or spear, a head would project beyond the awning and would invite sunstroke.

As his most precious inheritance, His Majesty is heir to that palladium of the Constitutional monarchy, the theory that the King can do no wrong. It is fully to be expected that he will not allow any glamour of popularity or any glozing words of flattering sycophants to beguile him into sacrificing the substance of impeccability for the phantom of personal prestige.

"Since the King can do no wrong," says Mr. Lowell, in his recently published work on "The Government of England,"

he can do neither right nor wrong. He must not be praised or blamed for political acts; nor must his ministers make public the fact that any decision on a matter of State was actually made by him. His name must not be brought into political controversy in any way, or his personal wishes referred to in argument, either within or without Parliament. (p. 39.)

A still greater authority has said the same thing in even more emphatic terms. Mr. Gladstone wrote:

Dignity and visible authority lie wholly with the wearer of the Crown, but labor mainly and responsibility wholly with its servants. From mere labor power may be severed, but not from labor joined with responsibility. This capital and vital consequence flows out of the principle that the political action of the Monarch shall everywhere be mediate and conditional upon the concurrence of confidential advisers. It is impossible to reconcile any, even the smallest, abatement of the doctrine, with the perfect and absolute immunity of the Sovereign from consequences. (*Gleanings*, p. 230.)

When Mr. Escott tells us that "to the entire satisfaction of his subjects, King Edward has informally become the head of our diplomatic system" (Escott, p. 401), and when the same authority asks why the King cannot become his own Foreign Minister, it is evident that ideas are in the air which may imperil the very basis of the throne. Contrast with these suggestions the sagacious observations of Lord Esher on the importance of avoiding the attempt to make the Sovereign the master workman of his realm:

Nor is it important nor desirable to attempt to lift the veil of mystery which to a large extent even in our prying times conceals from vulgar eyes the influence of the sovereign. In a great degree mystery and secrecy are vital to the maintenance of Royal authority. A monarchy to be stable should subsist in twilight, and an Emperor of China possesses a stronger hold on the imagination of his subjects than a *bon bourgeois* like Louis Philippe of France. Some instinct of this kind has guided the steps of the Queen throughout her reign, so that in spite of her simple tastes of sympathy more freely given to the poor than to the mighty, and of the lights which by her own published books she has thrown on the domestic life of the Court, she has nevertheless contrived to conceal from the public the nature of the power wielded for so many years over her Ministers as well as the influence she has exercised over

social and political events. (*Yoke of Empire*, p. 193.)

Since these words were written that veil of mystery has been largely lifted, in part, by Lord Esher himself, with results which do not altogether tend to encourage His Majesty in emulating the achievements of his predecessor. Queen Victoria was an indefatigable worker, one of those who scorn delights and live laborious days. "Blessed be drudgery" might have been the motto of the Victorian reign. She toiled like a galley slave through interminable despatches. Until the closing years of her reign she always had a Cabinet Minister in attendance, and she never strayed from home. King Edward possesses many admirable qualities, but other pursuits have greater attractions for him than the toiling and moiling through the arid wilderness of despatches and blue books. He is frequently away from home, and when he goes abroad his Ministers are left at home.

All this is compatible with popularity, and with a certain amount of factitious prestige; it is also compatible with a considerable rôle in public affairs. But it was by her laborious and conscientious discharge of public duty, for the most part unseen, that the late Queen revived the monarchy in England, and if it is to be maintained, Lord Esher's words may well be borne in mind:

The character and rule of Queen Victoria have set a high standard, below which it will be impossible for a monarch to fall without personal disaster. Future monarchs will have to beware of the example of Queen Victoria. (*Ib.*, p. 197.)

Let me recall the words used by Mr. Gladstone as the laws governing the exercise of a direct and personal influence by the Sovereign in the whole work of the Government:

The amount of that influence must vary greatly, according to character, to capacity, to experience in affairs, to tact in the application of a pressure which never is to be carried to extremes, to patience in keeping up the continuity of a multitudinous supervision, and, lastly, to close presence at the seat of government; for, in many of its necessary operations, time is the most essential of all elements, and the most scarce. (*Gleanings*, p. 233.)

King Edward has character, capacity, experience and tact. But patience in "the continuity of a multitudinous supervision," and "close presence at the seat of Government" are hardly compatible with the ubiquity of a Diplomat-King frequently on the road.

I close this paper with an expression of profound gratitude to the King for having recently administered to sycophants and flatterers a signal rebuke. The notion that he aspired to play a governing rôle in the affairs of State has been so diligently disseminated that his absence from London at the recent Ministerial crisis had all the effect of a startling surprise. As a late Prime Minister pointed out, authority has given place to influence in almost every department of Royal activity; but he added:

Not that even power is entirely gone.
The whole power of the State periodi-

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cally returns into the Royal hands whenever a ministry is changed.

One of the fateful moments when the whole power of the State had returned to the King's hands occurred last spring. The occurrence was not unforeseen. His Majesty was at Biarritz, and a Ministerial crisis found the Sovereign *in partibus*. It is true that he returned to England for the Council, at which the new Ministers were sworn in. Some of the newspapers grumbled. But they overlooked the significance of the object-lesson which His Majesty had administered to those who at home and abroad had been deluding themselves with vain dreams as to the revival of personal rule. They might have learned from the "episode de Biarritz" the true estimate in which their notions are held by the Sovereign himself. A similar lesson, administered as effectively to those who indulge in similar day dreams as to His Majesty pursuing a personal policy aiming at the isolation and throttling of Germany would contribute to the confidence of the world. How that lesson should be administered the Sovereign is in a much better position to decide than the writer.

A Loyal Subject.

SALLY: A STUDY.

BY HUGH CLIFFORD, C.M.G.

III.

To little Saleh, now some fourteen years of age, that voyage across the trackless seas was in the beginning a sort of dreadful nightmare. During the first few days all other emotions were forgotten in the compelling agonies of sea-sickness, and the boy went through the successive stages of the malady, fearing at the outset that he was like

to die, and later that no such good fortune awaited him. By the time the vessel reached Ceylon, however, he had found his sea-legs, and was able to give his undivided attention to his mental miseries.

The first sight of the coast, with its clusters of nodding palms and its shroud of vivid greenery, comforted him a little; for here, at any rate, was

land, friendly land covered with forest and fruit-groves such as he had always known, not the vast emptiness of the sea. Colombo itself, too, brought some measure of consolation; for there were Malays here in fair numbers, men with whom he could converse in his own tongue, albeit they spoke a sadly degenerate jargon, whereas on board the ship, since he as yet had no English, he was to all intents and purposes dumb. The white man in whose charge he was travelling spoke Malay fluently, but Saleh, who had known him hitherto only as a high official, regarded him with awe, and gave him none of his shy confidence. A further acquaintance with Colombo, however, ended by increasing the gnawing homesickness from which the lad was suffering. His only conception of the whole round earth was as one vast tangle of forest through which the big rivers crawled seaward, wherefore, to him, the dissimilarity of Ceylon to the Malay Peninsula was more striking than its resemblance. The place was, in a disquieting fashion, reminiscent of his fatherland—a land of shadows filled with the echoes of distant voices; but it was to the boy only a mocking reflection of the reality, and its points of difference jarred on him like discordant notes. On every side, it seemed to him, he was met by sorry distortions of familiar scenes. It was as though he looked upon his home in a bad dream, and beheld it hideously deformed and misshapen. He went back to the ship with a heart heavy as lead.

The vessel, her coal-bunkers replenished, put to sea once more, and began to thrust her nose into the boisterous waters of the Indian Ocean. The dreary interminable days, their monotony unbroken by the smallest happenings, trailed one after the other in slow procession; and Saleh, who did not care to read turgid Malay verse, and was too shy to talk much with the only man

on board who understood his language, learned for the first time what is meant by solitude and weariness of spirit. Each dull hour heaped up the burden that was crushing him. He was in the grip of a grinding homesickness—a yearning so acute that it was as agonizing as an aching tooth, forcing itself upon his attention insistently, maddening him with a pain which yet lacked the relief of expression, and haunting his very slumbers. He longed with unspeakable intensity for all familiar things—the faces that he knew, even though they belonged to men and women for whom he cared nothing; for the sound of his mother tongue spoken with the native accent; for the scene, the color, the very atmosphere of his home; for the trivial things of every day, so little valued when they were his, which hitherto had made up life for him. The depression, inseparable from lack of occupation or interest, deepened the gloom of the nostalgia which darkened his days; but the emotion that throughout oppressed him most sorely was fear—blank, unreasoning fear. The immensity of the world was a new fact which had been flashed upon his intelligence suddenly, had been revealed to him abruptly with no course of preparation to soften the shock. It smote now upon his understanding, numbing, cowering him. He, who hitherto had never wandered more than a dozen miles from the village in which he had been born, who had lived in a land whose every inhabitant was known to him, found himself now adrift upon the bosom of a boundless sea, with countless eyes, he fancied, glaring at him with a cruel glitter from those restless waters, and the dome of the unemptying heavens arching over him. On board the ship he was in the midst of strangers, men who were not only unacquainted with him, but belonged to a different race, followed strange customs, professed to

an alien faith. From time to time some unfamiliar port was touched at,—the blinding, burnt-brick mound of Aden, unsoftened by so much as a single blade of grass, and peopled by naked negroes who resembled Jins; the white-hot sand-sweeps of Suez, where blue-clad Arabs, with scarred faces, lived among strange beasts of burden, the like of which Saleh had never seen—camels and asses; and later still the European seaport towns, with their deafening roar of traffic and steam-cranes, where white men dwelt in numbers past all counting. These new lands terrified Saleh, and caused him to feel outcast beyond redemption; for every step of the way, every turn of the churning screw, bore him farther and farther from the folk he loved, and the only corner of the earth that was dear to him. It seemed to him that he was the merest atom, a thing infinitely minute, lost past all recovery in limitless space. A sense of that awful vastness—which somehow was interwoven with a sudden perception of the real meaning of eternity—came upon the boy, shaking him with an abject terror. The idea, to his unaccustomed mind, was so immense that the sheer effort required to assimilate it set his brain reeling, tottering. And constantly the haunting question obtruded itself, "How shall I ever find a way back again across this uncharted wilderness?" At that thought a cold despair would seize him, and he would fall to prowling about the ship like a caged beast, his eyes wearing a hunted look, while he endured agonies that were doubly bitter because he had no one in whom to confide his fears. So, when the night came, he would sob himself to sleep, and tossing restlessly upon his mattress when forgetfulness at last had come, would call by name upon his mother and upon others whom he loved, as men in heavy grief murmur in dreams the names

of dear ones who are dead and gone.

The utter monotony of a long sea-voyage to one unaccustomed to travel spins out the days in such interminable wise that at the end of a fortnight one is tempted to believe that more than half of life has been passed in the belly of a ship. All the events of our normal existence become faint and shadowy memories—things that belong to some half-forgotten, unreal, former state of being; things that have little practical value or significance. The world is narrowed down to the limits of the ship, its inhabitants to the number of the men and women who journey in her. There seems to be no special reason why anything should occur to break the dead sameness of the days: it would appear to be quite natural were the voyage to continue to the end of time interminable in its dull routine, its regularity, its idleness. And this, too, was Saleh's experience. With the passing of the third week his native land became something incredibly remote; the men and women who dwelt there little more than moving shadow-shapes that came and went vaguely amidst the haze of memory. The natural adaptability of the boy, and, it may be, something of the innate philosophy and patience of the Malay and the Muhammadan, came to his rescue. He had settled down insensibly into the life of the ship so completely that he might have been a part of her; and though the present manner of his existence brought him no active happiness, he had found contentment of a dull vegetable sort that had in it nothing of irritation, expectation, or hope. He was picking up a little English too,—learning it as a child learns, unconsciously and without effort,—and he had all a child's delight in making display of his new acquirement. He had grown almost callous to the awful conception of the immensity of God's universe, to the humiliating sense of his

own insignificance. These facts had lost their power to terrify and appal. Nor did it now seem to him to matter greatly if, after all, the land of his birth and all that it held had sunk beneath the skyline past the possibility of re-discovery. People were kind to him, and the inertia of his race caused him to shrink from the thought of the huge expenditure of energy which a return to the Malay Peninsula would entail. The conviction was upon him that he could never again bring himself to undertake another voyage like that which he was now making, yet this no longer filled him with terror or with despair. He had reached the condition which in his own tongue is called *kâleh*—a state of blank torpor and indifference, incomprehensible to the average European, that, holding all things of little worth, lulls the senses as with opium fumes.

Wherefore it came to pass that the end of his journey found Saleh with roots firmly fixed in the life of the ship, parting from it and from the new friends whom he had made with intense discontent; but it found him also weaned already from his own people, for whom in the beginning he had sorrowed so grievously.

IV.

Saleh's first impressions of the white man's country remained later in his mind as a confused and fearful memory. The size, the dingy ugliness, the noise, the hurry of London combined to awe him; the great towering buildings, blackened with smoke, the blurred jumble of their roofs and chimney-stacks half merged in the gray mirk, stood around him in serried ranks, hemming him in, stifling him; the colorless sodden sky, lowering above them, seemed to bear him to the ground through its sheer weight; the danger of instant annihilation, with which at every crossing of the streets

the mighty traffic threatened him, set him shaking with an ague of terror; but most of all the frightful isolation, of which the seas of strange faces made him conscious, clutched at his heart-strings with a grip that was chill and paralyzing. The immensity of the universe had cowed him once; now it was the glimpse he had gotten of the unsuspected multitude of humanity—unnumbered folk who had no thought or care for him—that robbed him of breath. He had never yet felt so utterly lost as now with these packed streams of unknown men and women drifting past him. All his days he had been an object of consideration, the son of a king, with willing subjects ready at his beck and call. He had never walked a yard without a tall of idle pages trailing after him. Now he believed himself to be drowning in an ocean of human beings, yet overwhelmed by an appalling solitude.

A drive in a hansom through the throng of vehicles set his heart in his mouth, his hand clutching vainly at the arm of the man who sat beside him; the fearful speed of trains that rushed along the labyrinths of lines kept him in momentary expectation of catastrophe; but worse still were the crowds of Europeans that stared at and jostled him in the streets—men of an alien race, of pallid unnatural color, with intent busy faces and hard eyes. Saleh felt much as a white child might feel who was suddenly set down in the midst of vast mobs of gibbering negroes. He was convinced that the blended horror and fear with which his strange surroundings inspired him would last forever; that he could never become used to air environment so dreadful, so appalling; and all the while his very soul was aching with longing for the soft moist climate, the sunshine, and the lavish greenery of the Malayan land. The bitter nostalgia revived with all its ancient force.

but his craving now was for inanimate rather than for animate things—for the familiar places in which his days had been passed, not for the men and women, his friends and kindred, who had already become mere shadow-phantoms to his memory. And still his every suffering was made doubly hard because it was endured in secret and in silence.

After a busy week in London Saleh was sent to Winchester, where a home had been found for him in an English family. This severed the very last link that still connected him with the old life, for the officer who had brought him to England left him on the platform at Waterloo, after handing him over to the charge of a magnificent-looking personage, who, the boy thought, must surely be one of the great ones of the earth. He was surprised when this brass-bound potentate pocketed five shillings with apparent satisfaction, and addressed him as "Sir"; but in this strange land everything was puzzling and Saleh despaired of ever getting a grip upon the bewildering customs of the white men. He would have resisted this sudden transfer of himself from the care of a man whom he knew to that of a total stranger, but he was past the power of resistance or protest. He was completely cowed, as a young horse is cowed by an alien environment, and with the innate fatalism of his people he set himself to endure all that might befall with patience and philosophy, which only added to his trouble, since it drove it inward, denying it the relief of expression.

At Winchester the boy was passed on to an immensely tall, upright, grave-faced clergyman, whose stiff black clothes and gaunt, clean-shaven face depressed the lad with gloomy forebodings. It was as though this man were an ogre—the grim custodian of the prison in which he was to be pent. All

the passionate love of personal liberty, bred of the free life in the forest lived by uncounted generations of his forebears, awoke in Saleh, filling him with resentment against all the world, with savage impotent rage, with the instinct of fight, with a sullen desire to hurt some one, any one, because he himself was quivering with despair and fear and pain. When the clergyman held a hand towards him, the boy shrank back, his gums bared for the moment in something like a snarl, his whole body tingling with blended anger and terror, his muscles braced for flight or for self-defence. His new friend, looking down upon him through grave, pre-occupied eyes, noted nothing of the lad's discomfiture, and as he shook him by the hand, patted him on the back, and gave him kindly welcome, he was happily unconscious of the fact that the little brown creature before him was longing for a dagger with which to stab!

Next, after a short drive in a cab, from the windows of which Saleh saw the effigy of a big black swan, that he decided must be some unclean idol of the white folk, he found himself standing very ill at ease just within the doorway of an English drawing-room. It was the first place of the kind that he had ever seen, and its smallness, its strangely low ceiling, the quantity of furniture, the endless knicknacks and ornament, seemed to him to be things unnatural, barbarous, stifling. He felt as a wild thing may do when it finds itself in a trap. The narrowness of the confined space set him gasping: he looked about him with furtive eyes, seeking some means of escape.

The room seemed to him to be packed with people, for Mrs. Le Mesurier, the clergyman's wife, was seated beside a tea-table with her family about her. There were three girls with their hair down their backs, and a boy, all of whom stared at the

stranger with eyes made round by curlosity.

Mrs. Le Mesurier rose from her chair and came towards him, holding out both her hands in greeting. Saleh noticed that she moved as no Malayan woman ever yet moved, with a graceful sweeping carriage that had still the spring of youth in it, and that her eyes were soft and kind. Her thick dark hair fell low upon a broad forehead, parting in two glossy waves; her cheeks had a delicate tinge of pink, that seemed a blemish in Saleh's eyes, for he was accustomed to the even pallor of his own womenkind. Just as at Colombo it had been the dissimilarities rather than the resemblances that had arrested his attention, so now it was the point in which Mrs. Le Mesurier failed to conform to the standard set by her sisters in Malaya that at first struck Saleh's eye: yet as she came towards him she appeared to him to be a figure vaguely, elusively familiar, like something seen for an instant in a state of previous existence fitfully remembered. The little feet so daintily shod, the pretty undulating gait, the gentle *frou-frou* of her garments as she moved, the soft delicate hands with their pink palms and slender nervous

fingers, outstretched in greeting, the thoughtful eyes whose gaze was bent upon him, all were quite foreign to his experience of women—of the women whom he had known; and yet . . . and yet, there exhaled from her a subtle air of femininity, of tenderness, of he knew not what, that reminded him irresistibly of his mother. No two human beings could be more unlike, wider apart, could differ more completely in their habit of thought, outlook upon life, in mental grasp, in opinion or in sympathy,—in all things they resembled one another as little as did their outer seeming, yet to Saleh they were strangely, indescribably alike; for, though he knew it not, it was the maternity which these women shared in common that forged between them a subtle link that made them akin. He did not reason or speculate about it then or later, but he was conscious of it, felt it in the very marrow of his bones, and as his hands met her warm clasp his misery was tempered for him suddenly, and something of peace was restored to him. Thenceforth, I think, Saleh was a little less lonely and outcast in the heart of this strange world into which he had been thrust so ruthlessly.

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(To be continued.)

MODERNISM IN ISLAM.

There is in every gathering of many creeds and races a certain appeal to the imagination. A café in Vienna, where every hat conceals a different nationalist fanaticism, is not without its romance. A Turkish ferry-boat on the Bosphorus, its deck an epitome of the whole ethnography of Asia, sets one dreaming of Charon's bark, where for the first time all the tribes of mankind met on the common road to Hades. The streets of Cairo provide the same

fascination with a difference. They tell of the wistful patriotism of the exile, and even their signboards flaunt a polyglot home-sickness. The "Café of Zion" stands side by side with the "Restaurant of Ararat," and across the way the "Bakery of Macedonia" breathes insanitary aspirations after freedom. But it is in the ancient university of El Azhar that the East has gathered its motleyest concourse. There is, to be sure, no contrast of

garbs and costumes. The students wear the same decent robes of striped silk, and the same modest turbans of white or green. Arabic, too, is their common tongue, and the thoughts in their carefully disciplined brains are more uniform than those of a crowd of true-born Englishmen or Germans. But they have come from every corner of the Mohammedan world. There are men of Turkish stock from the Crimea and from Turkestan, Tartars of the Caucasus, Afghans, Malays, and Indians, Arabs from Morocco, and Arabised negroes from Uganda or Nigeria. They mingle with the throng of Egyptian peasant students, and only a shade of duskiness or the curve of a nose marks the difference among them. They are all quartered round the great open courtyard of the mosque, squatting in little groups, with a praying mat, an earthen pitcher, and a heap of dried maize cakes for their only property. They sit or kneel through the long hours of daylight, now listening to the lectures of their doctors, now swaying to and fro, hardly pausing to regard the stranger, in their effort to commit the Koran to memory. But under the external sameness a world of jarring politics and strivings lies hidden. Here are the "Mad Mullahs" of to-morrow, who will preach a *jehad* to Afridi clansmen on the Indian frontier, or rouse the Somalis to arms. Do they compare notes, when the Koran is laid aside at sundown, and discuss the varying ways of Anglo-Indian magistrates and French officials, Dutch governors, and Russian bureaucrats? Do they realize as one problem the secular struggle of East and West? Do they catch a glimpse of the long line of the eddying skirmish, of which each newcomer could relate an episode from his own remote experience?

We meet, as we walk among them, an old acquaintance, a Sheikh from Mecca, a tall, burly Arab, glorious in

the green turban that marks his descent from the Prophet, resplendent in hereditary embroideries, and wearing in his sash a great dagger with a golden hilt, the ransom of a whole caravan of slaves, the price of a herd of camels. A man of affairs, accustomed to treat with Pashas and spies from Yildiz Palace, he has come on legal business to Cairo. He tells us with what satisfaction the citizens of Mecca and Medina watch the approach of the Sultan's railroad from Damascus; how they count their gains from the coming influx of pilgrims; while the Bedouin of the Desert wonders whether a train will be as easy to blackmail as a caravan. We ask him, as a doctor in Islam, whether it is really quite orthodox to ignore the Prophet's injunction—that the pilgrimage must be made either on foot or on camel-back. He smiles an easy depreciation of the question; the pilgrimage is to him a matter of business. We quit him, to step warily among the busy fellahs, who memorize the Koran with the same stolid industry with which they would follow the slow steps of their plough-oxen. We brush, as we go, against a tall young African, black as ebony, but with Arab features. He has just arrived from Bornu, on the edge of the Sahara. A fellow student lays a hand on his arm, to see what book it is that he is carrying. The freshman turns angrily round, shouting, gesticulating, and even threatening to draw his knife. "He has only just come to the Azhar," a sophisticated Egyptian student explains, "he thinks we all want to rob him." One's brain reels at the thought of the mental processes which will go on in the head of the poor, puzzled Bornese during his three years in Cairo, as he learns, with the memory of the desert behind him, to thread his way among electric trams and automobiles, turns from the Koran to the daily Arabic press, jostles with Euro-

peans in the street, and meets in the café some Nationalist agitator, who seems to him wiser and bolder than any European, yet is, despite all his unfathomed lore, his own brother in Islam.

If ever there came a ruler to Cairo who aspired to conquer the mind of the Moslem world, it is with the Azhar that he would begin. Here are made the learning, the theology, the jurisprudence of two continents. Could you but change the mental outlook of the Azhar, in a generation you would transform the thinking of two continents. One trembles to think of the risk to the world's last conservatism which this centralization of the spiritual life of Islam involves. Imagine the irruption into this stagnant world of some teacher of genius, saint, dialectician, and orator, armed with the learning of the West and the piety of the East, who should give to the Mohammedan world a volume of "Essays and Reviews," and nail his theses to the Azhar doors. It has not happened yet, and no conqueror has seen his chance. Napoleon, for all his grandiose dreams of a conquest of the East with the aid of a regenerated Islam, was so little aware of the significance of the Azhar, that he stabled his troopers' horses in its colonnades. Mohamed Ali, perhaps because he was, like most Albanians, a member of the latitudinarian Becktashl sect, felt no interest in the Azhar, unless it were to covet its revenues. His method of Europeanizing Egypt was to send off batches of unwilling students in chains to study the sciences in Paris. His successors, the Khedives, followed his policy of creating a little isolated Westernized secular State on the top of the unchanging world of the masses and the priesthood. The result has been the development of a limited class of officials and professional men, speaking English or French, contemptuous of the priestly caste, verg-

ing on Free Thought, and utterly isolated from the masses of the agricultural population.

The Azhar still controls the thinking of the real Egypt. It furnishes the priesthood, the teachers of all the village schools, the teachers of the Arabic language and literature even in the secondary schools, and the judges and barristers who administer the canon law of status, marriage and inheritance. They have come from a University where it is still the correct opinion that the earth is flat. The Azhar, unchallenged in its theological prestige, is decadent even as a school of Oriental learning. Of the active interest in logic, metaphysics and mathematics which once ruled within its walls, little or nothing remains. The Azhar never was a centre of bold philosophical speculation as Cordova was, while Europe was still barbarian. But it must have attained, before the deadening Turkish conquest, an incomparably higher level of intellectual life than it reaches to-day. The old curiosity about nature and history is hopelessly dead, nor did the Arab philosophers who found a way of grafting Aristotle on Mahomet, leave successors. I doubt if there is now among the whole regular teaching staff of the Azhar a single doctor who could read a European book. Even the teaching of elementary mathematics is neglected. What this contempt for secular lore involves can be realized only when one meets in the villages the graduates of the Azhar who give to the children of the peasantry all the instruction they ever receive. I met in the Fayoum a young man whom I should judge to be a favorable specimen of his class. He had recently graduated in Cairo. The "notables" of his district had built for him a clean and decent little school. His wages averaged about £1 a month —one-third of the pay which an English official will give to his illiterate

Nubian man-of-all-work. He was anxious to increase it by earning the Government grant of £10 a year. The obstacle was that he knew no arithmetic, and I found him busily conning a little text-book which explained the mysteries of the four simple rules. One sees, moreover, but little hope for the future. The Nationalists spend all their energies in battling against the British occupation. Yet the first step towards the creation of an educated nation which might conceivably make Parliamentary government a success, is the reform of the Azhar, and through it of the priestly caste. Here, in this one all-important field, Egyptian opinion is supreme, and no English "adviser" stands in the way of the national will. A little has been achieved in the past two years, but it was done against the opposition of the Khedive, by two strong men who had the confidence of Lord Cromer—the late Grand Mufti, the Sheikh Mohamed Abdou, and the present Minister of Education, Saad Pasha Zaghloul. Thanks to them, a corps of black-coated lay teachers from the Government schools now enters the Azhar to instruct the students in history and geography. More interesting is the immensely successful experiment of creating a post-graduate school, outside the Azhar, but affiliated to it, where promising ex-students are trained for the work of the religious law-courts, which still control the whole family life of Egypt. Here even natural science has been insinuated into the curriculum, and Saad Pasha explained to me how he had induced the doctors of the Azhar to sanction the teaching of physics by baptizing it "The Science of the Properties with which the Beneficent Creator has endowed Bodies."

It is commonly said that Islam is an essentially unprogressive religion. Lord Cromer's recent book on Egypt has stated this position very forcibly.

The fact that Mohamedan countries are intellectually and morally stagnant is only too obvious. But is it Islam or the Mohamedans themselves who are to blame? Is Islam in its very nature incapable of change and growth and adaptation, or is it the economic and political conditions of the East which have caused Mohamedans to interpret it in an ultra-conservative sense? On the answer to this question depends in the end the future of the Moslem world. If Islam is itself the cause of the present decay and stagnation, then clearly we may expect for the future nothing much better than the present. There will always be a relatively enlightened upper class, agnostic in its outlook. But it will remain for this reason quite incapable of influencing the believing masses.

A student of comparative religions who judged of Islam by the Koran would answer such a question at once and in the most pessimistic sense. Islam sanctions slavery, contemplates a state of war as normal and even desirable, restricts industry by forbidding interest, cramps the growth of legislation by basing its codes on a theocratic sanction, leaves little scope for the free play of speculative thought, and, worst of all, perpetuates the primitive Oriental view of women. Here in a sentence is the case against Islam, and a very formidable case it is. But all history proves the folly of basing any sociological criticism of a religion on its inspired texts. Mankind selects just as much from the teachings of its prophets as it finds it convenient to adopt. It explains away what is not suited to its needs, and a rapidly changing society is always ready to invent new methods of exegesis. Islam, from the point of view of the sociologist, is just so much of the Koran as Moslems really do observe, and Christianity, from the same standpoint, is not the idealism of the Sermon on

the Mount, but the average teaching of the organized churches. Christians, with the exception of the Quakers and the Dourkhobors, have never found a difficulty in reconciling armies and law-courts with the Christian teaching about non-resistance to evil, and Moslems are quite as ready to select and explain their texts. The history of modern European civilization is indeed the record of the brushing aside of ecclesiastical claims and prohibitions, many of them as absolute as those for which Islam stands, and as sharply opposed to modern industrial civilization. Islam certainly prescribes a religious law which ought in theory to cover the whole field of civil and criminal jurisprudence. But the Mediæval Church also maintained its canon law, and the secularization of our codes, after centuries of conflict, is not even yet complete. The Church in the Middle Ages was quite as hostile to interest and usury as Islam—that is why the Jews became the hereditary usurers of Europe. Art was cramped for centuries by an ascetic hatred of beauty quite as formidable as the Mohamedan prohibition of portraiture. Slavery, though it can claim no Christian warrant, was protected by religious sentiment. Portuguese bishops blessed the captives as they embarked on the West Coast, and Boswell argued that to check the slave-trade was to "close the gates of mercy on mankind." St. Paul did not prescribe the seclusion of women in the Mohamedan sense, but he is still quoted against every modern tendency of emancipation.

It is important to recall these facts, because they show that every society has in some phase of its evolution to struggle against the conservatism of its organized churches. The history of Mohamedan peoples shows the same readiness to move forward in spite of ecclesiastical barriers. When the Arabs first broke upon civilization, they

burned the library at Alexandria; a few centuries later they alone in Europe kept alive in their Spanish schools the tradition of Greek philosophy and the habit of free speculation. It is true that Mahomet formally prohibited portraiture and sculpture. Yet there are numerous statues of Egyptian statesmen, Khedives, and soldiers in the streets and public buildings of Cairo, and even prominent members of the priestly caste allow themselves to be photographed. The Turkish Sultans in the last century quietly relegated the canon law to the dust heap, and substituted for it a version of the Napoleonic code, retaining the religious law only in so far as it bears on marriage and inheritance. There are endless subtleties to explain away the passages in the Koran which make for a constant state of war and intolerance towards other religions—there are even forged documents enjoining toleration and equality ascribed to Mahomet, worthy of the inventiveness of the early Christian compilers of spurious epistles. No religious precept, even in the East, survives in the end against the argument of convenience. Egypt supplies in this respect a curious contrast. The upper classes long ago ceased to observe the letter of the Prophet's prohibition of interest and usury. They patronize banks, float limited companies (*e.g.*, for the creation of a Nationalist newspaper), and buy stocks and shares. The peasants, on the other hand, can rarely be persuaded, despite some authoritative religious pronouncements, that it is permissible to deposit money at interest in the Post Office Savings Bank. Their economic existence is still so primitive that they suffer very little in this respect by their rigid obedience to the Koran. On the other hand, where a strict obedience would expose them to intolerable inconveniences, they display a total absence of scruple. The

women of the peasants in Egypt are quite as free in all their movements and relationships as are the Christian women of European Turkey. They walk about unveiled even when they enter a town, or talk with a man. The miserable village huts render any attempt at privacy or the seclusion of the women quite impossible. One may even see young women talking gaily to young men in the street and indulging in what looks like a brisk and untrammelled flirtation. Poverty compelled the peasant women to work, and religion has failed—if it ever attempted—to veil and imprison them. No one is shocked or surprised, and no sect of literalists attempts to bring the peasant women to a more orthodox standard of conduct. It is only among the middle and upper classes, where the women can afford to indulge in the luxury of Oriental modesty, that the rules of veiling and seclusion are observed in Egypt at all. Islam, in short, like every other creed, is obeyed when it happens to fit the general economic and political conditions; when a sufficient reason arises for ignoring it, religious scruples cease to influence the conduct of daily life. Islam may be in theory like Catholicism, an unchanging creed, but Moslems, like Catholics, contrive somehow to change.

If, however, the question arises whether Islam is ever likely to evolve from within a powerful and successful rationalizing movement, it is by no means easy to feel hopeful. Western Christianity came early into contact with a mild incarnation of the spirit of rationalism, and the encounter took place while science was weak and undeveloped. The Renaissance was welcomed by the Church, and in different degrees and in different ways she adapted herself betimes to the growth of thought, grew under the influence of the new currents of thought side by side with science, and built a series of

half-way houses for open-minded thinkers, from Luther's to Mr. Campbell's and that of the Abbé Löisy. Islam shared the fate of Eastern Christianity. Neither was touched by the Renaissance, and that historical accident has probably decided the fate of them both. When the modern spirit broke upon Islam and the Eastern Churches in the nineteenth century, it came in a form vastly more formidable and revolutionary than it had assumed in Erasmus's day. Compromise and adaptation were now almost impossible, and Mohamedan theologians, like the clergy of the Greek confession, are as yet quite incapable of making the effort, from sheer lack of education. The phenomenon is not confined to the Mohamedan world. It is general from Moscow to Cairo. The educated classes in Russia are quite as hopelessly alienated from Orthodoxy as those of Egypt are from Islam. The fundamental reason is in both cases the same—that the clergy have remained mere peasants in their habits of thought. The Western Church made its terms gradually and piece-meal with Galileo and Newton, and ultimately with Darwin. The Eastern Church and Islam have to face the whole completed position of Western Science, and to face it without experience or knowledge. An English boy afflicted with doubts can carry them to a clergyman who studied under T. H. Green at Oxford, or took his degree in natural science at Cambridge. An Egyptian boy has to deal with a picturesque old gentleman who can read no language but his own, and inclines to believe that the earth is flat. An effort, it is true, has been made in the last generation in Egypt to liberalize Mohamedan theology. The late Grand Mufti, Mohamed Abdou, a remarkable man, whose chief title to fame is that he managed to win the friendship and admiration alike of Mr. Blunt and

Lord Cromer, made a valiant attempt to reform the Azhar and to modernize the exegesis of the Koran. He knew French, and even translated Herbert Spencer. He has left lay disciples behind him, but it can hardly be said that he founded a school of theological thought. He was, there is little doubt, in his own inner convictions an agnostic. Bigots and free-thinkers alike dismissed his liberal opinions by pointing out that he did not observe the fast of Ramadan.

Hitherto the Moslem "modernists" in Egypt and India have worked in isolation. It has been reserved for a Russian layman, Ismail Bey Gasprinsky, to take the first steps towards creating a world-wide organization. He has been for many years the editor of a successful newspaper, the "Terjuman," published in the Turkish language in Russia, which had a large circulation even in Turkey until the Sultan stopped its importation. A Liberal in politics as well as in religion, his influence helps to explain why it is that the Moslems of Russia have thrown in their lot with the Constitutional Democrats. He has done much in Russia for the education of his co-religionists, including even the women and the priestly caste. Convinced that the Pan-Islamism of Constantinople is a reactionary movement as dangerous for religion as it is for liberty, he turned rather to Egypt than to Turkey for support. His aim is to organize a Pan-Islamism which shall be tolerant and progressive, and the method which he has chosen is the summoning of a congress, which is to assemble in Cairo during the coming autumn. Cairo presents two advantages. Free speech is possible, and the city, so long the residence of the Caliphs and the seat of the Azhar, still ranks as one of the sacred places of Islam. Ismail Bey Gasprinsky is a man of something more than middle age, simple, modest, yet

dignified in his demeanor, quiet and unimpressive when he talks on general topics, but capable of an almost dangerous fire when he approaches his master-idea—a man, clearly, who lives wholly for his reforms, and serves, with a gentle and hardly conscious courage, his self-less and disinterested idealism. His own point of view on such questions as the position of women is Russian rather than Oriental. He was full of praise for some Moslem country-women of his own who have boldly pursued their medical studies in the Russian universities; but he was human enough to laugh at the droll cunning of some Moslem deputies in the Second Duma, who supported woman's suffrage because they realized that their well-drilled wives will simply duplicate their husbands' votes. In religious matters I have never met a man of wider tolerance. He is even prepared to invite the Persian Babis to his Congress.

The point of departure of the new movement is rather social and economic than dogmatic. Ismail Bey Gasprinsky starts from the fact that the Mohamedan world is plainly receding and decaying before the advance of Western civilization. The Congress will be invited to diagnose the causes of this long decay and prescribe the remedies. If it answers his wishes, it will, I fancy, proclaim a series of principles which would serve as a basis, not indeed for a religious "reformation" in the Protestant sense of the word, but certainly for a social renovation. Science, it will doubtless argue, is not hostile to religion, and therefore a good Mohamedan, even when he is a theologian, need not fear a Western education. The Koran, it may venture to suggest, is a historical document addressed primarily to the Arabs of the seventh century, and a distinction must be made between its teaching about the unity of God, which

is fundamental and eternal, and its legislation, which is no longer applicable to modern conditions. Incidentally a doctrine of complete tolerance can be founded on such a method of exegesis. Another subject which may perhaps be raised is the propriety of using Arabic, the Latin of Islam, as the language of prayer in countries where Arabic is not the vernacular. Possibly the Congress may suggest restrictions on the freedom of divorce which Islam at present allows. It will doubtless advocate the education of women, but it is not likely at its first meetings to approach a subject so contentious as their seclusion. For my part, I doubt whether Mahomet has really much more influence in locking the doors of the harem than has St. Paul in delaying woman's suffrage. It is the middle and upper classes alone which main-

tain this custom in Egypt, and they on the whole are agnostic. The Mohammedan home rests indeed on a crude sexism. For every five marriages in Egypt there are four divorces. It is not so much religion as a primitive sense of property in women which is the real obstacle to change. But progress there is. A very able Egyptian judge, the late Kassim Bey Amin, wrote a brilliant book on the emancipation of women. The demand for education is growing, and the age of marriage rising among the educated class.

On such straight lines of common sense the Congress is likely to work, and its decisions, while they may lag behind the real views of its exceptionally enlightened leaders, will doubtless represent an immense advance on the conventional standpoint of Islam.

H. N. Brailsford.

The Fortnightly Review.

THE APPLICATION OF SCIENTIFIC METHODS TO HOUSEKEEPING.

I had once the pleasure of escorting a man trained in engineering science into the kitchen of a large country house. He was to give advice on the possibility of fitting up a knife-cleaning machine in connection with the engine that pumped up water from the well. That project proved impracticable, but it interested me to watch how my friend observed and condemned the equipments of the kitchen. He looked at the washing-up sink with a critical air, saying, "Capital arrangement for smearing all plates with a thin culture of microbes." He pointed out how inconveniently the kitchen range was situated in reference to the window; he watched the cook peeling potatoes, and remarked, "Manufacturers would be ruined if they gave such unskilled work to their highly-paid men"; and as he departed he declared that though a

staunch believer in the rights of women to social and political equality with men, the thought sometimes crossed his mind that they could not be equal in practical power of administration, for otherwise they would long ago have adopted in house-management more modern and scientific methods.

There has been much discussion lately concerning the industries of this country, but in the discussion housekeeping is never mentioned. Yet housekeeping, in the widest sense—the provision of domestic comfort within the home—is the largest single industry known. It employs almost the entire time of nearly all married women, and, in addition, a whole army of domestic servants. Now it is not hard to show that in many important matters domestic management is one of our most backward industries. In the first place,

with few exceptions, there is little improvement in appliances. True, there are gas-stoves and new methods of lighting; bath-rooms are more common than they used to be; there are smaller useful devices, such as mechanical carpet-sweepers and egg-whisks. Still, if we imagine a woman of two centuries ago brought to life again and conducted into a modern kitchen, it is clear that she would find most of the appliances and methods tolerably familiar; while if she were taken to a railway station or into a cotton factory, she would find the progress made absolutely marvelous. The new ways, alike in method and in result, would appear to her all but miraculous. In house-management there have been improvements doubtless, but still the systems of cooking and cleaning, of providing warmth and ventilation, are not greatly changed from the methods of earlier generations.

In the second place, there is little division of labor; in the working-class household there is none at all. The wife is expected to be cook, housemaid, nurse—and caterer and laundress in addition. If a capable woman, she performs many of these duties creditably, but at the cost of immense labor. Few people lead lives of as wearing and incessant toil as working-men's wives. If they have small children, they practically never have a holiday at all. Those who are not fitted to be housekeepers cannot grapple with their task, live in a perpetual muddle, and perhaps in the end take to drink. Among the servant-keeping class, circumstances are very little better. What sort of person is the maid-of-all-work or plain cook in a middle-class family? Not infrequently she is a raw country girl, and if older, she is often only the more ignorant and opinionated. Rule of thumb, muddle, and absence of dainty cleanliness are conspicuous in the kitchen. Cooking could

be, and indeed sometimes is, an applied art closely allied to chemistry; but the ordinary exponents of it are absolutely untrained save by haphazard experience. One reason for this is that in all households, save those of the very wealthy, there is no proper gradation of work; the same maid washes dishes and cooks, the same scrubs floors and dusts and carries out more elaborate cleaning. But it is wasteful in the extreme to employ trained workers for unskilled work.

Moreover, there is an absence of skilled supervision and direction. This should be provided, according to our current conceptions, by the wife and mistress. But what preparation has the ordinary bride received for the work of running a household? She may have helped her mother a little; perhaps she has attended a course or two of cooking lessons. But in the work of organization she is inevitably unskilled, and her keenest interest is in what one may call the artistic or ornamental side. In relation to food, for instance, she never asks herself what is the healthiest and least costly mode of living; she wants to cook dainty and highly-seasoned dishes for her husband. Does she devote her attention to providing her kitchen with the newest and most efficient tools? Not at all. A newly-wedded wife never takes a pride in her well-fitted-up scullery; she shows you instead her drawing-room or, at best, her linenchest. She knows little of what should be her special division of the household work, catering and account-keeping. True, in time she learns by experience. But few women even in years of haphazard housekeeping attain to the businesslike habits which they could learn in a few months of training in an office! Do we not all know women who have no definite time for making household arrangements, and who day after day, when the cook ap-

pears with the information that the butcher's man is at the door, are struck afresh with dismay at the necessity of ordering dinner at five minutes' notice?

In short, the modern household is unprovided with proper machinery, is worked by inadequately-trained labor, insufficiently graded, and has no proper supervision or organization. These defects are not without relation to one another—for instance, partly because servants are untrained. The ordinary domestic cannot be trusted with a washing-machine or electric iron. Her carelessness and inefficiency ruin any but the simplest tools. And there is a further difficulty in the servant-keeping establishment. Insistence on class-distinctions is an irk and a hindrance everywhere today, but the difficulty is nowhere more keenly felt than in the close quarters of the household. The middle-class family is perpetually worried by the presence in its midst of strangers with different habits and different ideals of conduct; these strangers are in possession of kitchen and scullery. The position is made even harder by the fact that these strangers are in possession, so to speak, of the household machinery, of the kitchen and scullery; in consequence, even those who wish to serve themselves are forced to ring the bell and allow themselves to be waited on, if they need merely a glass of water or desire to have a speck of mud brushed off a pair of shoes. That on the servants' side the relationship is distasteful is well understood. In spite of good wages and pleasant quarters, it is more and more difficult to obtain proper service, and the need is greatest where it is least well supplied. The widow lady with a grown-up family finds that her two servants stay with her for many years and serve her well; the young doctor's or engineer's wife with a handful of small children is worn and harassed by the search for a reliable nurse-

housemaid or cook-general. The attitude of mutual irritation that is common in the household is well shown by the use of the pronoun "she." The mistress in the drawing-room, the maid in the kitchen, when constantly speaking of the other simply as "she," indicate how soreness is bred by this over-close relation.

Now all this irritation and inefficiency is due to the fact that the organization of the household has remained behind that of the rest of society. The household is still in the feudal age; and the reason for this is that we confuse the organization of housekeeping with family life. The home is the domestic factory, and each woman by her status of wife or daughter or sister is expected to cook and clean, or at least to organize cooking and cleaning. Hence each family must have its plant and service separately from every other family, and because every woman is expected to cook and clean, women rarely learn how to cook or clean efficiently. Consider what an absurd system this is. If we were to walk down an ordinary street of houses, and investigate what is going on within each, we should find the same operations laboriously performed by hand by solitary women in each house. Each family has its own kitchen, its own backyard, its own system of providing hot water. In each a separate woman with toil pares potatoes by hand for dinner, in each she washes and dries dishes in an antiquated and insanitary manner. Each house has its own narrow staircase up and down which coals, luggage, often enough hot and cold water, must be carried by hand. The system is palpably old-fashioned and absurd, and the obvious remedy is the extension to household affairs of the methods of the large industry. The individual home must cease to be the unit of domestic work; there must be central kitchens

and laundries; houses must be lighted, ventilated, supplied with hot water and perhaps warmed, from plants serving whole districts at a time; cleaning operations must be carried on by properly-trained workers making use of effective machinery.

The remedy is obvious, and yet it will be received with cries of horror. "What! Break up the privacy of the home! Force us all to live in public! Deprive the wife and mother of her supreme privilege of creating a warm and congenial home atmosphere!" We know these cries of protest, and may as well admit at once that there is much justification for them. There is a need of privacy and of a place wherein to rest and be quiet; a method of house-keeping that would supply us with material comfort to the highest possible degree would not compensate for the irk of a life lived perpetually in public. A quiet dwelling-place for each family, wherein the individuality of husband and wife can freely express itself is a prime necessity of life. But is it beyond the power of the human intellect to think out a system that shall satisfy both demands, the demand for greater efficiency in mechanical arrangements and service, and for proper privacy for each family? To some extent these two needs are already met in certain somewhat expensive systems of flats; but flats are unhealthy in many ways, and are not suitable for the up-bringing of children. Indeed, in many flats children and dogs are forbidden, and even in the experiment in co-operative housing shortly to be carried out at Letchworth, there is a suggestion that tenants with families should not be received. But the people on whom the housekeeping problem presses most hardly are the women who are just on the verge of the servant-keeping class—women whose husbands' incomes range from £150 to £400 a year—and who are the mothers of small children. They

do not wish to live in flats in town, and certainly should not do so; they should occupy cottages in the country where the children can play in the garden and grow strong in the fresh air.

Therefore, what is needed is a garden suburb, or village. It should be carefully planned from the beginning, and should consist of separate or perhaps semi-detached cottages with private gardens behind and facing on to a central park or green. From a central power-house, each house should be heated and ventilated, provided with electric light and power, and a constant supply of hot water. This is not a wild suggestion; the writer has seen it already in operation in Bryn Mawr College, U.S.A., where five halls of residence, accommodating about 400 students, are heated, lighted and furnished with hot water, as suggested, from one central plant. Near the entrance of the proposed village, there should be a club-house in connection with the central kitchens. Here should be restaurant, reading-rooms, possibly a small concert hall, and a suite of rooms that could be hired at reasonable terms for entertainments, meetings of societies, etc. Here, too, should be the general office or administrative buildings. Part of the central green should be laid out for games, and a special portion should be provided for the riotous play of children. So much for the communal arrangements. Each cottage should be complete in itself, and so planned that the rooms at side and back and the garden behind should be as free as possible from observation by neighbors. It should be fitted with a small pantry, where afternoon tea and simple lunches and breakfasts could be prepared. In it electricity could probably be used. If the community, as suggested, manufactures its own electricity, it would be found profitable to supply electric power during the day at a very cheap rate. The pantry could contain an

electric kettle and frying-pan at all events, and that most useful of implements, an electric iron. It should be very daintily fitted up, with a white tiled washing-up sink and plated or aluminium electric utensils. Near to it could be a lavatory and cloak-room for minor toilet operations, and above would be the bath-room. A woman living in a house of this description could easily do her own daily house-work without undue fatigue, especially if the members of her family were trained to wait upon themselves to some extent. If desired the office would supply skilled charwomen at so much an hour, and one might come in early in the morning, prepare breakfast, dust and sweep the sitting-rooms, clean boots, etc. But the mistress and her daughters could themselves perform these duties without much difficulty. With energy, if the members of the family used the bathroom for washing operations, each cleaned his or her own boots (as is the custom in America) and made his or her own bed, the house could be in thorough order fairly early in the morning.

A simple lunch and tea could easily be prepared in the pantry, and dinner could either be sent in or actually eaten in the restaurant. The washing would be sent out; probably the management would run a laundry in connection with the power-house. But lace, blouses, collars, d'oyleys, tray-cloths, etc., could be washed and ironed in the home pantry.

Thorough cleaning, whether fortnightly or of that severer order that occurs in springtime, would be undertaken by skilled workers provided and supervised by the central office. Three or four energetic young men or women clad in white overalls or pinapores would appear on the appointed day, the mistress having warned all the members of the family to be as little at home as possible. They would use

an electric cleaning machine,¹ running easily on wheels from house to house; they would clean every window, polish every piece of furniture, and depart at evening leaving the house absolutely fresh and sweet. The mistress would visit each room as they left it, restoring ornaments to their places, and giving the personal touches that create the right atmosphere. In country air, a very little dusting and sweeping—especially if the furniture were solid and simple—would keep the house in order between each visit of the cleaners.

In carrying out this scheme, we should avail ourselves of two tendencies in modern life which are really complementary, though often thought of as contrasted. We want in its place the use of efficient machinery under the charge of trained workers. This is a factor that must have further development in many directions. But side by side with it should go greater simplicity in personal habits; simpler food, simpler clothing, simpler furniture, would make it possible for each family to do much of its own work. For instance, instead of employing washer-women or laundresses in the house, the large and complicated articles of clothing should be sent out to be washed in a steam laundry; but in a house provided, as suggested, with a pantry fitted with a well-designed sink and an electric iron, handkerchiefs, lace collars, and other small articles could with ease and indeed pleasure be done up at home. The same policy should be followed in relation to cooking; the important meals of the day should be prepared by skilled hands under scientific supervision and with the help of elaborate appliances; on the other hand, every individual should be able and

¹ The best of these is the "aspirator," but this machine when worked by electricity costs £18. It is impossible for the single middle-class family to afford a machine at such a price. Its cost would be a bagatelle to the management of a colony of the kind suggested.

willing to make himself or herself a cup of tea or boil an egg or make porridge.

Now doubtless there would be difficulties of detail to be worked out here. One difficulty is a somewhat snobbish one: Will women of the class suggested consent to be without a servant, and so be obliged to open the door themselves to visitors? And what is to be done when all the members of the family are absent at once? Obviously the community should have a somewhat imposing entrance-gate, with a uniformed porter in attendance. He would receive letters and parcels, would report to visitors that Mrs. Smith went to town for the morning, but expects to come back later in the afternoon, and would beg them to wait for her return in the reading-room or park. It might be possible that, if desired, any cottage should be connected by telephone with the porter's lodge, so that he could announce the approach of a visitor, thus giving the mistress time to wash her hands and make any necessary preparations.

Again, it will be urged that some families would find it impossible to live without a servant; a children's nurse, for instance, might be in many cases necessary. But we do not suggest that servants should be forbidden; any tenant who wished would be at perfect liberty to have a private attendant. Nevertheless we should expect to find that under such a system the presence of a servant would be found more and more inconvenient, and that when the servant's help was essential, she would rather be of the type of nursery governess or helper than of the socially inferior serving-person.

Another objection that would probably be brought forward is that the plan suggested could not possibly be applied to the housing of the working classes. The rent for such accommodation as is suggested would be quite

beyond their resources. Certainly the scheme would need considerable modification if it were to be worked out to meet working-class needs. But that is no argument against doing the best that can be done at present for another class. If the simplest form of the problem is solved first, then we can attack the more difficult task.

To meet another possible objection, there would be not less but more privacy than in the ordinary English home, harassed as it is by the perpetual presence of strange serving-women. Life in such a community would be infinitely healthier, easier and more really comfortable than in the ordinary stuffy English terrace or square.

To note some of its advantages: it would set free the woman who does not care for housekeeping to devote herself to her own special work. In the case of a childless couple, each member could continue comfortably to pursue his or her own avocation. The mother would in most cases retire from her pre-matrimonial occupation for some years. But when her children grew older (and even when they were young if she had a competent helper) she could return to her profession. At present it is absurd that the trained woman-worker, whether teacher or clerk or doctor, should practically either be compelled to remain single or else to give up her vocation. If she chooses the former course, then some of the finest women in the country remain celibate and fail to hand on their qualities to the next generation, while if they marry and relinquish their work, then the time, labor and money spent on preparation for it has been almost wasted.

Again, life in such a community would solve the problem of housekeeping for the unmarried man or woman. At present, except under unusually favorable circumstances, people who do not form part of a family must find

accommodation in squalid lodgings or boarding-houses, faced always by the two alternatives of unwholesome loneliness or uncongenial society. But under this scheme, a group of young men or women friends could rent a house and run it with very little trouble; possibly suites of two or three rooms plainly furnished could be provided in the central club-house for the use of this class. Again, a new profession for middle-class women would appear; for the central kitchens and laundries and the staffs of cleaners would need organization and supervision. Now at present the woman whose forte is housekeeping—and there are many such women—has no chance of exercising her talent unless she marries. But frequently these capable women are single, and therefore society loses their much-needed services. Many of them take a special and elaborate training in the schools of domestic economy, and then proceed in their turn to teach housekeeping. But they should not teach, but practise it, and our suggested village would for the first time provide for them an adequate sphere.

It should be noticed that the scheme need not necessarily be co-operative. Indeed, at first it would probably succeed better if run on the ordinary lines of a limited liability company, working for a dividend (which might possibly be limited to five per cent.). The practical plan is to form a company with sufficient capital, to secure an estate suitable for the purpose, not too far from a town or industrial area, and in constant communication with it either by train, tram, or by a service of motor-cars.

The estate should be carefully laid out to the best advantage, with its groups of cottages and its larger houses containing suites of rooms for unmar-

ried people; its central club-house and kitchens; its power-house and laundry; its tennis- and croquet-courts and children's playground. Cottages should be carefully designed by a competent architect. To provide for individual tastes, an arrangement might be made that, if a tenant were willing to take a house on a long lease, he should be allowed to build according to his own design. Let the company engage the central staff, and then hire its houses at a definite rent to any tenants who offer, providing light, heat, meals and service at a fixed tariff. Probably an advisory committee should ultimately be appointed by the tenants to criticize and suggest, and should there be more applications than can be met, this committee might be given power to select. But at first, at all events, the scheme would have far greater chance of success if run on ordinary capitalistic lines, than if managed as a co-operative community, provided there were adequate consideration shown for the wishes of the tenants. And that it would be a success the writer has no doubt. True, some of the suggestions involve considerable initial expenditure, but so much would be saved in wages, food and houseroom for servants, the work would be so much more thoroughly and efficiently performed, so much waste involved in the existence of the separate kitchens and laundries of the ordinary house would be avoided, and the life would be so much pleasanter and more healthy, that the experiment, not of co-operative housekeeping, but of the application of modern and scientific methods to household management could not fail to work a revolution in our present expensive, inefficient and comfortless plan of providing for domestic life.

Mabel Atkinson.

THE HOUSE IN ISLINGTON.

CHAPTER I.

"Philip," said Mrs. Burchell timidly.

"Yes?" muttered Mr. Burchell from behind his *Telegraph*.

"My little cheque came last night. It is just fifteen pounds. Is there anything"—

She did not complete the sentence. There were many of those unfinished sentences on Mrs. Burchell's side in her relations with her husband, and they increased in number yearly.

For a few moments there was a silence which might have been described as strained, and then Mr. Burchell smoothed his paper with an ominous rustle. He had decided to speak out. "My dear girl," he said, with a distinct rasp in his voice, and with a finality which he almost intended to be cruel—"let us settle that matter of the House in Islington once and for all. Twice a year regularly you receive your little check, and twice a year regularly you insist on asking whether you shall buy me anything out of it. I hope—I sincerely hope—that I appreciate the attention as I should; but I wish you to understand now that it is utterly unnecessary on your part, and that it need not be offered again. It is your own money, and I refuse to touch it. Use it entirely and absolutely for your own purposes. In future I shall not expect you to mention that you have received it."

There was a painful pause. Mr. Burchell did not lower his paper, but he knew that his wife had smiled—one of those small smiles with which she was accustomed to disguise her feelings. When she spoke it was as gently as ever.

"Of course, Philip, if you wish"—

"I do wish," said Mr. Burchell firmly. "Let that be enough. I must not be worried with trifles—not even twice a year!"

Trifles! There was complete silence after that, except for the inevitable movements of the breakfast-table. Mr. Burchell spent another two minutes over his paper, and then looked at his watch. Five minutes later, well clad and well groomed, he passed down the path that intersected his faultless lawn and turned into the street. It was now twenty-five minutes after nine, and he invariably caught the nine-thirty-six at Highgate Station. From the dining-room window Mrs. Burchell watched him go, and he acknowledged the attention by a careless nod as he disappeared.

"Women," he said to himself in injured self-excuse—"women seem to have no sense of proportion. That House in Islington! year after year in just the same way, as if we were still striving to live on a hundred and eighty pounds. I am afraid Mary is a woman of one idea—or rather, a woman of a dominant idea. That's it—the Dominant Idea. She can't get away from it."

So he strode on along the shaded road, and in the house that he had left his wife returned to the breakfast-table to finish her last cup in unprofitable meditation. Naturally, it was the House in Islington that claimed her thoughts, and she retraced its story in a mood of mingled pain and self-blame. Her face was not yet an old one, and its patient gentleness was her passport to the trust of any who came near her when they were in need of a friend; but at this moment something had picked out certain lines in it with a pitiless pencil, and she looked much older than the well-groomed City man who had just left her.

Twenty years ago, when Philip Burchell had asked her to be his wife, she had come to him without any great beauty and with a somewhat keen

sense of her own shortcomings. He was an extremely able young man, and she had wondered in her heart of hearts that he had chosen her. So she had kept a secret for him, and it was not whispered until the day after their marriage. "You thought I had nothing, Philip; but it is not quite so bad as that. There was a little property left by my grandmother, and after my uncle's death—he is very old, you know—it will be divided between my cousins and myself. I shall have one-fourth—and it will probably be the House in Islington."

She remembered with vivid clearness his real pleasure and his exaggerated surprise. He had rallied her upon her "fortune" all through the fortnight of that humble honeymoon, and she had enjoyed the situation even more than he. After all, she had something to offer him, something that would be a great help in the heroic struggle he had begun. No, she could not help him much herself—her scope was limited, and she could only stand and watch. But the House in Islington would help, and he would take that as a part of her contribution to the common fund.

It was curious to remember how differently things had worked out. The life that stood between had ceased in the first year of their marriage, and the House was nominally hers; but then had come a long period of delay, and even when that period was over it was found that legal expenses had swallowed up nearly the whole of the first year's proceeds. She remembered how Philip had pinched her ear consolingly when that disappointing five-pound note had come. But it was a beggarly five pounds in the second year too, for the property had long been neglected, and extensive repairs were necessary. So those first years of their married life were full of calculating and contriving with the House in Islington like a tan-

talizing shadow in the background.

The third had been the year of the greatest need—a need so urgent that they had tried to part with the House to one of the cousins at his own figure. It had produced ten pounds that year. The cousin had declined, and the House had begun to assume something of a sinister aspect with relation to their fortunes. But then things changed quite rapidly. Philip improved his position, and the upward march began. At the same time the House, as if in ironic sympathy, had shaken itself clear of misfortune, and had begun to pay thirty pounds a year. Actually, thirty pounds a year! Yes, that was the irony of it—that it had begun to do fairly well as soon as the keen necessity was passed.

The rest of the story was very similar. In the first year of success Mr. Burchell had accepted from the House a pair of boots—an excellent pair of the best American make at one guinea. He had never had such a pair before, so the House had begun to be a real practical help; and although Mr. Burchell wore those boots for two winters, it is safe to say that it was his wife who found the greatest pleasure in them. Her eyes were on them often, and she regarded them as a first-fruit of her many expectations. But, alas! the chance never came again. Even before that pair was worn down the partnership had come, lifting their wearer high above all considerations of footgear, and setting his feet in the broad way of prosperity and self-esteem. On the arrival of the next half-year he had playfully announced his independence, blind to the pain he was giving, stupidly unaware of the true inwardness of things. "No, my dear girl," he had said blandly, "I will not accept a penny. It is yours. Buy things for yourself."

Something—perhaps the knowledge that he would be amused—had forbid-

den an explanation, and he had persisted in his refusal. She had tried one or two pleasant surprises; but he had shown annoyance rather than pleasure at such evasions of his will, and that method of procedure had had to be abandoned. So for the last ten years she had simply offered him a gift, and he had as simply, but very firmly, declined it.

In the meantime some vague fear of hers had gradually been realized. The City had year by year cast a heavier spell upon him, and he had become more and more engrossed in his business, less and less interested in his home and his wife. Inevitably, as his character hardened and his views of values changed, he had allowed a gulf between them to widen, and had made no attempt to bridge it. Brusqueness and impatience, absent-mindedness and self-absorption, the City column at the breakfast-table—all had been signs of the tendency she had seen a long way off and could not prevent. In a sense she had centred her hopes in the House in Islington, feeling that such a contribution to the common welfare would always claim his respect and gratitude, if nothing more. But the House had failed egregiously in its mission, and on this account she could claim nothing. To-day he had, as he had said, settled the matter once and for all.

She could forgive him for the way in which he had done it; she could even overlook the fact that he had described it as a trifle. A trifle! But she would not forget the fact that she must not mention the matter again. The last hope was gone, after having been many years agoing.

So she sighed gently, and then blamed herself for desiring the unattainable; and with a faint smile upon a face which had not yet lost its sweetness, she rang the bell for the maid and turned to the duties of the day.

CHAPTER II.

Seated in his first-class compartment, Mr. Burchell again attacked his newspaper to cover the last traces of his breakfast-table outbreak. He was not sorry for it—indeed, he had not the slightest difficulty in finding full justification; but it had been unpleasant, if necessary, and he was willing to forget it.

He was able to complete his examination of the City columns, and might have done more if he had not been interrupted. Conversation in a first-class compartment on the nine-thirty-six was sufficiently unusual to be noticeable, sufficiently disturbing to be resented. He could scarcely help hearing in some subconscious fashion, much as he desired to avoid it.

The two men who conversed were City men, and he knew them both by sight. Their talk was market-talk of an ordinary type, but to him market-talk was always interesting. Moreover, this conversation seemed to be somewhere in the region of his own business, though he would hardly have said how he became aware of the fact. The noise of the train was such that only imperfect phrases reached him.

"I heard a rumor last night," said the nearest man; ". . . are in trouble. Heard anything yourself?"

"Not a word. What was it?"

"Oh, . . . deal—South Americans—pulled them all to pieces. Won't open to-day probably."

"Others will go with them," suggested the second man callously.

"Certain! . . . and more than one. There will be a slump in that line for a time."

The conversation went on jerkily; but Mr. Burchell had ceased to follow it, as the topic was changed. He had failed to catch the name of the firm under discussion, but it seemed to have been one full of labials and sibilants. Of course there were several names of a

similar character, and it was quite unreasonably that his mind sprang to Bassetts, and persisted in staying there. South Americans, too! Then he thrust the suggestion aside with an emphatic refusal.

"Rubbish!" he thought impatiently. "That's out of the question. South Americans—absurd!"

A few minutes later he was in his own building and in his own room. The atmosphere was exactly as usual, and it was not until he had opened his letters that he called in his cashier, an experienced man of advanced years.

"By the way," he said, "have you heard anything about Bassetts—in connection with South Americans?"

"Bassetts? No, sir, not a word!"

"Very good. It must have been some other house."

Two minutes later he was at the telephone, making the same inquiry elsewhere. "Bassetts?" came the reassuring answer. "No—nothing. What have you heard? *They're* all right." But then he called up another number, to receive another reply. "Bassetts? Yes, we've heard. They've closed this morning. . . . Hope you're not in with *them*!"

He left the instrument after a moment, and recalled the cashier. "Bassetts have gone," he said calmly. "There was a South American muddle after all. They are bound to drag others with them. I expect we shall hear the worst by noon."

The man retired dumfounded, and Mr. Burchell drew his handkerchief across his brows before he turned to the work of the day. Long before the cashier's task was completed he had gone out, and it was some time after noon before he returned. Then he called the man again.

"Gillinghams are as good as gone too," he said. "It was bound to be, and Trescott is certain to go. Lambtons will, I believe, stand. You can

go into the whole matter now, and get at the total loss. There is no hurry about it—any time before five will do."

The cashier had lost his nerve long ago, but his employer's manner steadied him. He seemed to see a man standing in the midst of a quaking house and propping up the walls by sheer force of will. He retired again after asking a question or two, and the routine of the day was proceeded with.

At four a foolscap sheet of figures was laid on Mr. Burchell's desk by a hand that trembled. He scanned it closely, without a sign of emotion, and even checked the totals with that cool precision which his wife knew so well. He transferred the final calculation to his pocket-book with the same care.

"If you will allow me, sir," said the elderly cashier, in earnest agitation, "I should like to express my regret—and my sympathy."

Mr. Burchell seemed a little surprised. "It is very good of you, Simms," he said pleasantly. "Very good! Yes, this must be, of course, a serious check. Thank you."

"A serious check!" muttered Mr. Simms as he returned to his own desk. "A serious check! Well!" And it was with feelings of mingled respect and pity that he saw Mr. Burchell pass through the office later, on his way home, precisely at his usual time. The proud front of the beaten fighter is good to see, but it has its painful aspect.

Mr. Burchell walked to his usual train through the thronging City. There was in his bearing no betrayal of dejection, no shrinkage of dignity and confidence, and it was an unmoved face that he turned upon the scene of his misfortunes. "You have struck hard," he seemed to say in farewell, "but I shall be here again to-morrow!" And if the defiance found an echo in the groan of a stricken man, it reached no ears but his own.

CHAPTER III.

Before he reached Highgate he had fully realized the whole extent of his losses, but had no spirit to begin to rebuild. The shock found him lacking in that power of recovery which had brought him triumphantly through earlier crises. On his way home from the station he turned into the Queen's Wood, to find a little solitude in the leafy alleys where he had often planned his business enterprises. Then after a while he went quietly to his house.

At this point he seemed actually at the nadir of his fortunes, and bitterly conscious that it was beyond his power to right them. It was not until he approached his own gate, however, that he thought of his wife at all in connection with the blow, and then his pity was curiously tinged with something much less noble. He might explain, but she would not understand. It would be useless to give her any details. He knew so well what her limitations were. And in the bitterness of his defeat it occurred to him to make a study of the woman at this crisis. He would tell her the truth, and would observe the way in which she received it. It was a pity that she could not enter into his schemes a little more, that her limitations were so definite. She would have nothing to offer in the way of ideas—nothing.

He discovered now that the day's experience had quickened his perceptions to an almost painful extent. He noted, as for the first time, the beauty and tastefulness of his garden, the substantial structure of his house, the richness of his windows and of his hall. They looked different, he thought, because he saw them under the shadow of possible loss. In the morning-room, overlooking the garden, his wife was sitting, and she smiled a greeting as he passed. A moment later it occurred to him that she was almost al-

ways there. With a little impatience, he found himself making the acknowledgment that a very domestic wife was sometimes an advantage. It was an advantage to have her in her place on this particular evening, even if she had no ideas to offer.

Entering the room, he went to a couch and sat down where he could see her face. He was still intent upon his purpose. His wife looked at him in silence for a moment, and he observed—because he was there to make observations—a certain timidity in the look. At once he felt a little surprised. Surely he had never given her cause for timidity!

"Have you had a good day?" she asked gently.

That was about as far as she could penetrate into his business affairs, he reflected; but an instant later came the further reflection, "She always asks that. But she never forgets to ask that." And then he answered simply, "No; a very bad day. The worst in twenty years."

He spoke so calmly that she had to search his face for an endorsement of the statement. She lowered her work with a troubled look, and waited for more. With all her limitations, she seemed to have a faculty for reading his features.

"Three firms heavily in my debt," he said, "are closing their doors. The end of it is that I am very nearly ruined. Practically, I have lost three-fourths of all I had."

She certainly seemed to take it seriously enough, he thought, for she sat as if transfixed. Then he saw, very clearly, her effort to comprehend the meaning of such a disaster, and looked to see horror and dismay in her eyes. He saw neither, and for a moment failed to realize what it was that he did see. Could it be that she felt no horror of loss, no fear of the future, only an overwhelming and infinite pity?

And pity for whom? For him? He knew as soon as she spoke.

"Oh, Philip!"

He was certainly seeing something now. The pain in that one exclamation was inexpressible, and he stirred uneasily under the knowledge of it. He wondered that she did not come to him, and somehow his conscience connected this with something he had noticed previously—her timidity. But then she spoke further, the words issuing from her lips unconsidered, unmeasured. Indeed, she had never intended to utter them aloud.

"The House in Islington—I will sell it"—

She stopped, suddenly conscious that she had spoken, and aware of an immense folly. The silence that fell was painful. Burchell raised his head a little to stare at his wife, and she fluttered and trembled. As for him, he almost laughed, the thing seemed for a moment so grotesque. But then, looking still at her face, he checked himself.

With his unusual keenness of perception, a not unnatural result of his terrible experience and his new relation to circumstances, he saw every thing that came. Moreover, he was impelled to examine everything that came, to study it with an almost morbid desire for truth. That one phrase, "The House in Islington"—how banal, how foolish, how suggestively characteristic! Yet at once his mind fastened upon it for absolutely the first time, and in the space of a minute its whole significance was laid bare to him.

The House in Islington! In an instant he was back in the beginnings. He remembered how she had revealed her little secret on the day after their marriage, the shy pleasure and pride in her face as she told the story, half-expecting his surprise and delight, half-afraid that he would scold her. "You thought I had nothing, Phillip, but it is

not quite so bad as that. I shall have one-fourth, and it will probably be the House in Islington." And then they thronged upon him swiftly—soul-stirring pictures and echoes of the days that followed—the joys and hopes of their early housekeeping, the efforts to make the ends meet, the long, dark days of heavy toil and straitened means and abounding hope, with the House as a shadowy stand-by, giving so little, promising so much. He remembered that she had never called it *her* House, never claimed it as hers apart from him; and yet, in a way, she had regarded it as her own, so that she might give it to him freely. And in those dull days he had never noticed her limitations!

The House in Islington! Was there any limit to the content of those four words? Looking at her face, with its eloquence of pity, he swiftly linked those old days with these new ones—nay, with this last of all, this moment in which he sat and watched her. The phrase was pregnant with significance, full of revelation, for he saw her last words not as the helpless outburst of incapacity, but as the keynote of a life, the crowning words of a story extending over many years. It was the sum of all her aims, a motto, as it were, that covered all her thousand silent sacrifices of self, her timid, unfinished sentences, her patient smile. And she had offered him her poor little House year after year since, as the emblem or perhaps the materialization of a devotion that found in this its most hopeful form of expression. And he? He realized now that he had failed to see the meaning of the offering, had turned away from it and contemned it. Only to-day in his pride of power and prosperity, he had finally thrust it away from him, and had even trampled upon it. He could not be worried with trifles. Trifles! That persistent and indescribable devotion!

The House in Islington! Yes, revelation brought self-revelation in its train, and he saw the real cause of her vague timidity, her silences; and, as if in contrast, he saw again the quaint pleasure she had found in the one gift he had accepted from her since the tide had turned—that wonderful pair of boots. He did not remember it now with amusement. Quite clearly he saw the House in Islington for what it had always been from the first day to the last, and the truth struck him with the force of a blow.

Unaccustomed emotion gathered in his throat and dimmed his eyes. That flash of perception dissipated a thousand vapors of vanity and self-esteem, and stirred into sudden life the older, nobler spirit which had lain so long under the deepening spell of the world and the City. He had reached a bad pass, indeed, that he had failed to see so much, had been so blind to the tragedy of his own hearth!

"Come here, Mary," he said huskily.

She came, half-afraid and fully ashamed of her blunder. But he drew her down to his side, and did not afterwards release her hands.

"You are very good, Mary," he said in slow and labored words. "I will not have you sell the House. We must keep it in the family—it is too precious to part with. But I shall be glad of what you may be able to spare me from it."

Chambers's Journal.

She could see that he was not jesting, and her incredulity grew into wonder. He went on, growing stronger moment by moment, a better spirit rising from the ashes of his shame. He was minded to attack life again, to reconquer it so that he might prove himself worthy of the love he had seen revealed to him and at last had realized. And under this influence other things fell back into their true perspective.

"Still," he said, "I do not think these losses will break me. I am not broken as long as you are here to help me—as you have always done."

Slowly and doubtfully her wonder grew into joy. Now he was smoothing her hair,—a little awkwardly, with an unaccustomed touch—and scanning her face with strange intentness. Perhaps there were no lines there that might not be smoothed out.

"But—but I am so sorry, Philip!" she murmured.

Rapidly, in the new light he had been given, he summed up what he had lost and what he had gained through his losses. It seemed to him that it was his disaster that had placed in his hand the key of a better future, and he answered simply, "I am not sorry. I am glad!"

And thus it was that the House in Islington achieved its mission.

W. E. Cule.

"A COMMENTARY."*

Mr. Galsworthy has chosen an alluring title. No work so poor but it desires comment; better adverse than none at all. And when the text of the commentator is life itself, and the object of his criticism living men and women, vanity should see to it that he

* "A Commentary." By John Galsworthy

gets a hearing. Mr. Galsworthy's commentary, one may guess, is not intended to be a wholly soothing document. You may, if you choose, bring a man abruptly home to himself by confronting him with the unmistakable effigy of his own solid form and substance, or, more subtly, by drawing his

gaze towards a dim projection, unfamiliar, sinister, or even monstrous, which yet on closer inspection he must acknowledge to be the authentic shadow he throws. Mr. Galsworthy employs both methods, and as he turns his bright reflector now upon the closed-up ranks of the comfortable rich, now on the chaotic under-world of poverty and fear, the well-to-do spectator recognizes himself equally on either page as the author's objective. "Here in this picture see yourself; in this other, your work." The contrast, it may be said, and its application are not new, and a concentrated civilization has at least the merit of forcing them to some extent on the consideration of every man. Lazarus no longer waits at the gate. For a trifle he is made free of Dives's house, invades his most private hours, and has access to his mind if not to his bodily presence. The unanswerable pressure of his misery on the private conscience has been set down by Mr. Galsworthy in the sketch "A Lost Dog," where all the specious arguments of self-interest and common-sense retreat discomfited before the simple reiterated fact of the lost dog's existence. But we have something more here than ingenious and pointed statements of one of the oldest and most obvious of problems. Beneath the surface show of violent inequality you discover a fine thread of likeness, giving unity and rational sequence to the whole.

We may assume the short paper which heads the rest and gives its title to the book to be a more or less accurate summary of the author's point of view. The symbolism of the steam-roller is sufficiently obvious, whilst the old man whose call in life was to warn the public of its dangers, with his glib use of "humanity," "morals," "government by the people," "the milk of human kindness," and other book-learned properties, is clearly more than his own

mouthpiece. At all events, when you have read his commentary on modern life you will have gained the essentials of what this book has to tell you. The roadside philosopher, if you ask him, will give you his opinion, admirably condensed, on most of the outstanding features of the day. He passes under review the whole social structure. At the base, destitution, brutality, degenerate blood; at the head, purblind indifference. The building is neither fair to look upon nor seemingly secure. And you may derive from its contemplation no more consoling reflection than that, bad as it all seems, nobody in particular is to blame. This consolation, such as it is, emerges as you examine more closely the human items of which the fabric is composed. Some, for instance, are simply "born tired." "You can't do nothing with them; . . . they ain't up to what's wanted of them nowadays. You can't blame them. 's far as I can see." Some, again, live like the beasts; so would you in the same houses. "How can you have morals when you've got to live like that? Let alone humanity? You can't, it stands to reason." Others you will see taking their pleasures with aimless imbecility because "This 'ere modern life it's hollowed of 'em out. People's got so restless. I don't see how you can prevent it." Of those in the clutches of the law he will tell you: "Them fellows come out dead—with their minds squashed out o' them, an' all done with the best intentions, so they tell me." As for the rich, the comfortable, the official—"Well, they've got their position and one thing and another to consider—they're bound to be cautious; . . . them sort of people they don't mean any 'arm, but they 'aven't got the mind. You can't expect it of them, living their lives. . . . I don't blame them."

The old man, it will be seen, with his impartial and lenient philosophy, is

quite in tune with his time, for modern judgments do not err on the side of harshness. Material penalties still wait on breaches of the law, but, morally speaking, our temptation is to acquit the convicted law-breaker without further inquiry. "Your soul, born undersized, was dwarfed by Life to the commission-point of crime"—so Mr. Galsworthy, with orthodox polite evasion, addresses his criminal in one of the two chapters on prison life which epitomize much popular sentiment on the subject. So far we are all agreed; but the doctrine of irresponsibility is easier to accept than to put in practice, and most of us are accustomed to handle it gingerly, and apply strictly in accordance with our preconceived notions of what should be, as some republican nations, it is said, apply the principle of social equality. To Mr. Galsworthy belongs the credit of following out his theory regardless of consequences. Having accepted without reserve the non-responsibility of the convict, he perceives clearly that the matter cannot rest there. If one mortal, through no will of his own, is born in squalor ruinous to his nature, so is another to enervating comfort; and the child of luxury, it may be, is vitiated the more surely because the poison of his life is sweet. Mr. Galsworthy, when he turns to examine the outwardly more favored victims of chance, shows himself almost "too severe a moraler." Playthings, ornament, and idle laughter are as illegitimate in his world as the criminal at large in the world ruled by judge and prison warders. There is a strain of belated Calvinism in his conviction that the exquisite woman of the world, apostrophized in Chapter VI., was created to no good purpose. "The doll of Nature!" he cries, in accents of pain softened by no trace of pleasure. If burning, as well as pretty clothes, were still in fashion, she would be the very stuff

to burn. But, for all that, you are not to blame her. This is where she touches the far-away convict in gaol and awakes our interest. The apparent distance is bridged in a single phrase. Circumstance, which fashioned the convict into a thing dumb, atrophied in mind and body, has been no less cruel to the child of fashion. Blind she is, "in heart and soul and voice and walk, the blindest creature in the world. . . . the long result of forces working in dim, inexorable progress from the remotest time." And to her, as to the convict, and even more freely, the author grants absolution, repeating with all the emphasis of plain English and italics, "*You have never had a chance.*"

These two, the criminal and the woman of fashion, represent, as it were, the eternal snows of unblamability, and beneath them range infinitely varying levels of irresponsibility. There, for instance, stretches the great tableland whose inhabitants are comprised under the word "comfort." Moderate people, moderately rich, moderately virtuous, immoderately comfortable. In all ages the consolation of governments, the despair of the social reformer, and the target, more or less unconscious, of his arrows of sarcasm. How to make a mark on surfaces so smooth and polished that your missiles rebound, inflicting no smallest scratch, unless it be on the thrower, less perfectly protected by nature? The problem is tempting precisely because so hard of solution. Mr. Galsworthy, like other social reformers, has his infallible remedy, and we have the privilege of seeing it tested on a typical husband and wife who spend prosperous days in their comfortable, self-contained flat, lifted high above the untroubled street. These people were not in quite so poor a case as the Doll of Nature who never had a chance. Certainly they had their chance of sal-

vation that evening when Fate, to give it no higher name, led them gently to a pair of comfortable stalls, whence, all unsuspecting the benevolent influences about them, they became the unwilling spectators of an "uncomfortable" play. The admirable invention! A cunning trap for the worldly, of which John Knox himself might have been proud. But, alas! invented all in vain. Some momentary disturbance there is, as of a pebble cast into a sheltered pool, then the waters of comfort close in again and smooth out the troubled place as if it had never been. And are we not to blame these, seeing they had their chance and threw it away? Well, no. It is true they were not wholly blind; they could if they had chosen have seen—just a little; but a deep instinct, "for which Nature was responsible," made them feel that it was better not to see, and so— You perceive how inexorably the rule works. The real culprit stands always round the corner. This time it is Nature, and since Nature cannot be blamed, what is there left to a prophet but to shake his head mournfully and utter plaintive regrets: "If only they could know what is good for them—where Wisdom lies! If only they would go regularly to see 'uncomfortable' plays!"

Sometimes as the author continues his patient investigation of human stupidities and wrongs, arriving always at the same absolving conclusion, you are aware of a dim conflict proceeding behind the scenes, as if the prophet's fire protested against some damping-down process. Certain classes and persons—holders of place and power, men of precise habit, busy men, matter-of-fact men, and all who own good digestions and imperturbable tempers—rouse his most secret antipathies, and against them he restrains himself with difficulty and only in obedience to the necessities of his creed. "My instinct is to burn you, but reason tells me you

are not to blame. However despicable, useless, or harmful you appear, it is not your fault. The cause lies far behind you, embodied in vague forms which must be respectfully alluded to under the names of Life, Force, Nature, Circumstance, System, in all the dignity of capital letters, whilst man, as befits his subordinate and ineffectual existence, is written in small."

There is no need to enquire whether the assumptions underlying this work are endorsed by common experience. We have only to note how well—granting the premises—the inevitable results have been indicated. The scene, rigid, airless, and innocent of perspective as a Chinese landscape, is filled with mechanical figures of men and women who arrange themselves obediently in the conventional lines of some old immutable pattern. And if one asks by what force or motive power the vast machinery of life progresses, or even maintains its place, you have to reply that there is no visible sign that the machine moves at all. You find yourself in a world at standstill, waterlogged, rolling stupidly in the trough, and as you gaze across the dull waste of surrounding waters you discern a distant beacon whose pallid beams are constant rather than illuminating, and whose name, which you recognize to be appropriate, is "Courage without Hope."

With these, its last words, we take leave of our author's *Commentary on Modern Life*. Regarded as such, some may complain that the selections from the text are arbitrary and insufficient and the interpretation academic. But as a commentary on a particular attitude towards life we shall find it an honest and therefore a suggestive and valuable, though, it must be added, a depressing document. For perhaps, rightly considered, there can be no spectacle more forlorn than that of a race of men at once blameless and without hope.

MILTON AND THE BRUTE CREATION.

Whether Milton was a lover of any creature of God's universe may be doubted. That he was not a lover of animals seems clear. Abstractions he could love with a passion almost savage,—liberty above all; liberty for husbands, liberty for the Press, liberty for the nation. As Disraeli wrote of Sidonia, "he was susceptible of great emotions, but not for individuals." Of personal affection there is barely a trace in his works. The lamentations in "Lycidas" are too exquisitely phrased to convey the passion of grief. Such feeling as he shows for Cromwell is far removed from affection. The one sonnet ("On his Deceased Wife") in which his habitual dignity seems touched with love ends on a conceit frigid enough for Crashaw. Therefore it is not surprising to find the brute creation conceived throughout his works as incapable of companionship. Such a conception as Ulysses's dog in the *Odyssey* or Silvia's hind in the *Aeneid* was impossible for Milton.

Among unequal what society
Can sort, what harmony or true de-
light?

asks Adam, pleading with his Creator for a mate. The Divine Voice congratulates Adam on his dislike of animal companionship, and, as if to justify this view, no animal is exempt from temporary possession by Satan during his reconnaissances of Eden. No creature of any kind ventured into Adam and Eve's bower. When Eve laments the various delights of Paradise she has no word to say for the animals. They had done their best to please their lord and lady, especially the elephant, to whom we shall have occasion to return; and as the degeneration in their character at the Fall had been duly noted, some reference to their

original amenity would not have been out of place.

Many men in all ages have acknowledged the companionship of the brutes. Cato, indeed, used to boast that he had left his old charger in Spain lest the State should be at the cost of his transport to Italy, but his callousness rouses Plutarch to rebuke. "For my own part," says he, "I would not sell even an old ox that had labored for me. . . . Whether such things as these [Cato's actions] are instances of greatness or littleness of soul let the reader judge for himself." Livingstone gravely doubted whether animals had not guardian spirits. Montaigne asserted "a kind of interchangeable commerce and mutual bond between them and us." But the mere fact of animals' servitude to man Milton considered a bar to such communion. In that delight of one's childhood, "Masterman Ready," three beasts are singled out to provide material for one of those dolorous "Sunday" chapters,—elephant, horse, and dog. We shall see presently how Milton treats the elephant. He is hardly kinder to the other two of these elect among animals. "Hounds and horse" appear in "L'Allegro," and the only other dogs in his poems are the somewhat unsympathetic hell-hounds associated with Sin. The only horse occurs as an illustration of Satan,—"like a proud steed reined." Other references there are, but only in quite general terms,—viz., "fiery steeds," "horse and chariots," "their rich retinue long of horses led," "caparisons and steeds," "foaming steeds," "In mail their horses clad." A lover of horses would at least have called them more often by their proper name. Milton simply introduces them as adjuncts to a procession.

But there is another side to the at-

tractiveness of animals which one might have expected to count for more with Milton. Beauty and grace, the effective exhibition of strength and agility, all the pageantry of crowds, appeal vividly to him and find plentiful expression in his poems. For developing this side of animal life several fine opportunities occur in "Paradise Lost," and all are deliberately sacrificed. If Milton's sympathies had led his learning in that direction, what a gorgeous pageant he could have painted of the beasts filing up to the ark! And this is all we get:—

When lo! a wonder strange!
Of every beast, and bird, and insect
 small,
Came sevens and pairs, and entered in,
 as taught
Their order.

Again, when Adam describes the animals brought to him for naming, the sole point emphasized is their subjection to man,—"cowering low with blandishment." In the picture of the Creation we are so obsessed by the grotesque apparition of full-grown animals rising from the earth—"the grassy clods now calved"—that their personal appearance goes for very little. The lion is indeed tawny, and shakes his brindled mane; the stag is swift and bears a branching head; Behemoth is biggest horn of earth; the flocks are fleeced and bleating; the ounce, libbard, and tiger are not characterized at all. With the insects and worms a more sympathetic note is sounded, as we shall see later. Perhaps the most significant passage of all is the single picturesque allusion to an animal, and that one of the noblest, which occurs in the splendid description of Adam and Eve's environment. The beasts gambolled in a general way,—"bears, tigers, ounces, pards"; the lion dandled the kid in his paw, the sly serpent tied itself into knots—Gor-

dian knots, of course—and the cattle, "filled with pasture, gazing sat, or bedward ruminating." So far nothing but commonplace detail; but when the poet's fancy allows itself a little rein, see where it leads him:—

The unwieldy elephant,
To make them mirth, used all his
 might, and wreathed
His lithe proboscis.

There was once an elephant who did a laughable thing in a music-hall. With a drum-stick tied to his tail he so cunningly belabored, by a vigorous oscillation of his hinder parts, a large drum standing by that the music of the orchestra was rather aided than disturbed. The performance certainly contained that element of incongruity which makes for humor, but in the retrospect the thing was an unmixed offence. The man who could so belittle a noble animal as to gibbet him for ever in this circus attitude one would almost call inhuman. He would surely have jeered at Don Quixote. But then Don Quixote thought we might learn "modesty from elephants and loyalty from horses," and was no doubt a truly comic character. Milton's elephant is rather on a par with the eel in the Australian legend, which danced so comically on its tip-tail that it compelled the giant frog to split his sides with laughter and thus release the world's water-supply, — temporarily stored in his belly. But what is pardonable in an uncivilized eel is very offensive in an elephant,—especially before the Fall.

It will be well to take in detail the remaining references to animals in Milton's poems. The leviathan "seems a moving land, and at his gills draws in, and at his trunk [his trunk!] spouts out, a sea." There is also an allusion to the "great whales," and the ancient travellers' tale about sailors anchoring at night to the scaly rind. The hippo-

potamus and the crocodile are just mentioned in the Creation passage. A lion and lioness offer a type of matrimonial bliss, and there are a lion and tiger chasing fawns. Wolves never appear without the stock accompaniment of frightened sheep. Flocks and herds please the poet as part of those exquisite landscapes which he never wearied of painting. Goats occur in a simile, and Satan in his conversation with Eve mentions "the teats of ewe or goat dropping with milk at even." Kine are once commended for their pleasing smell, and appear again as booty in Adam's vision. The only other reference is—

What time the labored ox
In his loose traces from the furrow
came—

a mere expansion of a stock phrase in Homer. The hart and hind pursued by beasts of prey make a pathetic picture two lines long. The calf worshipped in Oreb and the grazed ox in Bethel may rank with the sacrificed "bullock, lamb, or kid," and the description of the plagues of Egypt contains nothing more intimate. Circe's pigs are in the same category as Diana's brindled lioness and spotted mountain-pard,—mere stage properties. In "Paradise Regained" the attitude of impotent hostility taken up by the wild beasts is not very sympathetic, yet it is more tolerable than the servility one might have expected. Horses, mules, camels, dromedaries, and elephants indorsed with towers are the only other certain quadrupeds in the poem, for as to how many legs a hippocriff had opinions may differ. Ewes and their bleating flocks are just mentioned among the booty in Adam's vision, and there is a strayed ewe in "Comus," brushed aside by the Attendant Spirit as a "trivial toy." The hungry sheep of "Lycidas" are of course not sheep at all, any more than is the "grim wolf

with privy paw" a wolf. Thus even in his pastoral poems Milton dwells little on the dumb occupants of the pasture.

In "Samson Agonistes," besides the inevitable ass whose jaw-bone confounded the Philistines, there are just four allusions to quadruped, and their significance is unmistakable. Samson—like Antonio before him—compares himself to a wether. Carcasses of the Philistines are left "to dogs and fowls a prey"; Dalila is greeted as "hyaena"; and the lords of Philistia are "drunk with wine and fat regorged of bulls and goats."

The serpent is on a special footing in "Paradise Lost," and it must be admitted that Milton describes reptiles with some sympathy. The serpent is of course sly, subtle, and wily. But he is also vividly pictured "with brazen eyes and hairy mane terrific"; "his braided train" is a fine description of the long embroidered back as it lies "in labyrinth of many a round self-rolled, his head the midst." There is high poetic energy in the account of his advances to Eve:—

Not with indented wave,
Prone on the ground, as since, but on
his rear,
Circular base of rising folds, that tow-
ered
Fold above fold, a surging maze; his
head
Crested aloft, and carbuncle his eyes;
With burnished neck of verdant gold,
erect
Amidst his circling spires, that on the
grass
Floated redundant.

Then come classical parallels, similes, and all weapons of the poetic armory. "His turret crest and sleek enamelled neck" is at least a phrase which indicates interest in the object described. The gruesome scene where Satan turns from angel to serpent in full conclave of his lords is written with an in-

tensity which almost obscures its grotesqueness. The hall "thick-swarming now with complicated monsters" becomes as real as Dr. Jekyll's study. The truth is, of course, that the untamable snake with its wild rebellious force had a nobility in Milton's eyes to which the tame elephant, slaving for his human lord, could never reach.

Winged creatures interest the poet far more than quadrupeds. Even reptiles become more interesting when they have "added wings," and the "female bee, that feeds her husband drone deliciously," was a creature after his own heart. The parsimonious emmet is commended as "pattern of just equality." The cricket is mentioned in "Il Penseroso." "Perish as a summer fly" is not a phrase packed with feeling, and restless thoughts have often been compared to hornets; but the well-known allusion to the gray-fly in "Lycidas" as he "winds his sultry horn" is of better stuff; and those lines are pretty in "Comus" which tell how Nature has

Set to work millions of spinning worms,
That in their green shops weave the
smooth-haired silk,
To deck her sons.

The gray-fly's horn is matched with the humming of flies about the wine-press and the "bees' industrious murmur" of "Paradise Regained." The honey-gathering bee sings at her work in "Il Penseroso." It is true that the simile at the end of the first book of "Paradise Lost" has nothing corresponding to Virgil's "strepit omnis murmure campus," but when to the free charm of wings is added the musical note that Milton loved, there is no hesitation in his descriptions. Of the fifteen passages in which he mentions birds generally, thirteen refer to their song, and one only to their colors,—"painted wings." The particular birds mentioned in his poems are the vulture, in a fine simile; the cormorant, whose

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form Satan assumed in Paradise; the eagle, stork, swan, crane, cock, and peacock, in the Creation narrative; cranes and pygmies; carrion birds, in a simile; the bird of Jove, who broke the peace of Paradise, and one other eagle, in a simile of "Samson Agonistes"; Noah's raven and dove; the cock,¹—once in "Paradise Lost," once in "Comus," once in "L'Allegro"; the herald lark in "Paradise Regained," low-roosted lark in "Comus," and the well-known lark of "L'Allegro." The nightingale occurs ten times in Milton's poems, hardly ever without raising the emotional value of the passage, sometimes making the poetry almost poignant.

The spectacular value of fishes has secured them twelve highly descriptive lines in the Creation narrative. Possibly the greater freedom given by fins, as by wings, secured them some measure of sympathy from the poet, and fish have seldom been tamed.

At the risk of weariness, I have now gone through all the passages in Milton's poetry which deal with the brute creation. It will be admitted that, with the single exception of the nightingale, no creature was capable of calling out his poetic emotion. He was in the words of his latest biographer, "a man of very austere and somewhat frigid character." His first wife's lawyer described him as harsh and choleric. All the more may we prize those glowing bursts of poesy, whether inspired by music, the song of birds, a noble landscape, or the magnificent pageantry of heaven and hell. For the sake of his high poetic imagination and the splendor of his harmonies we may forgive—though we cannot fail to notice—that harshness of character which is not an inseparable accompaniment of great qualities like his.

George G. Loane.

¹ Milton seems to have been sensible of the cock's companionship during the night-watches; but in "Samson Agonistes" he sneers at the breed as "lame villainic fowl."

CRYSTAL GAZING.

The recent death of Dr. Henry Clifton Sorby, of Sheffield, calls attention to one of the most notable results of his numerous scientific labors. When, in 1849, he ground down the first slice of rock thin enough to be viewed by transmitted light under the microscope he was lending a new eye to geology. For his discovery that the minute structure of a rock could be thus studied has enabled us, as Sir A. Ramsay expressed it, "to look at a mountain through a microscope." Butler has said:—

Nature has made man's breast no windows,

To publish what he does within doors, and to a great extent this is also true of the earth. Yet it is the great ambition of the geologists to look into the earth, and see something of what is going on within doors. The thin slice of rock which can be put under the microscope furnishes a small window through which the trained eye can see a little way into the interior. This new method of research, this apparently futile looking at the mountains through the microscope, was rather laughed at by geologists at first. But Dr. Sorby lived to see it develop into a new branch of science, petrography. In the hands of modern geologists it has led to immense developments in our knowledge of the rocks.

Scattered here and there in our land are what are known as "written rocks." These are the faces of old quarries or river cliffs on which the Roman invaders of our land in olden times carved their inscriptions. But to the geologist all rocks are "written rocks"; they are the pages of the book in which earth is writing her history. On this the ripple mark, the rain-print, and the sun-crack; on that the footprint of the bird or reptile that walked over the moist mud of the estuary. The stones of the

pyramids go back far beyond the Pharaohs, and tell of the Nummulites which lived in an ancient sea. In this piece of limestone Nature has preserved the forms of corals, encrinites, shells and other organisms which thronged the seas of a far past; this piece of polished and striated stone is a record of the former reign of the glacier and ice-sheet. And when we use the microscope we find that there is a minuter, but equally fascinating, writing of the rocks. In one particular kind of granite the quartz and felspar are so arranged that the outlines of the former mineral resemble the characters in some Oriental language. Geologists, therefore, call it Graphic granite, that is written granite. And the writing is the record of certain facts in the granite's history. In this sense not only every granite, but every other rock is also *graphic*, for in the form and arrangement of its minuter parts it tells its own history.

It is to the minuter writing on one particular mineral, rock crystal, that we now wish to call special attention. And this writing though vastly ancient is not in a dead language, but in one which is being written to-day under our eyes. Anyone who possesses a microscope can see Nature's pen tracing the lines. Make a solution of salt in water and place it on a glass slip under the microscope. You can then watch the cubical crystals of salt forming and gradually growing bigger. Some of them as they grow catch up little drops of the liquid, and inclose it in their substance. So there are formed solid crystals with liquid inclusions. Sometimes a little air is also caught up, and then there is a bubble in the liquid like that of a spirit level. We see, then, that in the wonderful process of crystallization liquid and gas can be caught up in a solid.

Now let us look at this thin slice of rock-crystal under the microscope. We see in it a number of minute cavities, some of which have liquids and bubbles. Some specimens of quartz contain a thousand million such cavities in a cubic inch. They have been exhaustively studied by geologists and present many points of interest. One of the most fascinating perhaps is the movement of the little bubble in the cavity which occurs in some. These have been observed to move in tortuous curves through the cavities in unceasing courses. Dr. Sorby, the first to investigate them, said of these bubbles that they move "as if they were minute animalcules swimming about and exploring every part of the cavities." The combination of physical forces which produces these remarkable movements has not been determined.

Such cavities with liquids however are not always minute. At times they are quite visible to the naked eye, and have bubbles which move about when the specimen is tilted, like those in spirit-levels. Such must have been the one described by Addison:—

"It is such a rarity as this that I saw at Vendôme in France, which they there pretend is a tear that our Saviour shed over Lazarus, and was gathered up by an angel, who put it into a crystal vial and made a present of it to Mary Magdalene."

The crystal with liquid possessed by the Roman poet Claudian, and which exercised such a fascination over his mind, must have been a very fine specimen. Moore's lines,

Like the famed drop, in crystal found,
Floating when all was froz'n around,
refer to it. Claudian wrote no fewer than nine epigrams, seven in Latin and two in Greek, on this "Crystal in which there was water." According to the prevailing view of his time rock-crystal was simply water frozen by the intense

cold of the mountain heights, and so it struck the poet as passing strange that a part should have remained liquid. *Prodigiosa silex, miracula liquidu saxy, mira silex*, are the expressions of his wonder. In the little drop of water the crystal showed what it had once been:—

*Possedit glacie naturae signa prioris,
Et fit parte lapis, frigora parte negat.*

The crystal retains the marks of its former state. A part has become stone, the rest refuses to be frozen. And here Claudian was enunciating a profound geological truth, the principles of which have guided the modern student of the crystal. Thus Dr. Sorby, in the course of a remarkable study of the physics of the problem, arrived at the conclusion that when the liquids were caught up in the quartz of the granite this rock lay beneath a superincumbent load of from five to fifteen miles of strata. The granite has, in fact, preserved its tears as a record of the fiery trials it endured in the realms of Pluto. When the quartz was crystallizing from the molten state it caught up some of the liquids present, and imprisoned them in its substance.

Again, in one of his Greek fragments Claudian calls on the crystal to tell its own story:—

Come tell me, O crystal, water shut up
in a stone,
What congealed you, what released
you?

Here, again, the Roman poet shows the spirit of a genuine geologist. For it is the essence of geology to question each stone, and elicit from it its own history. So hold the crystal to your ear again, and see if it will not whisper more earth secrets. It tells you—does it not?—that when the rock solidified deep down in the earth's crust there was much gas and vapor present. There must be, in fact, enormous volumes of vapor entangled in the molten

mass below. May not this high pressure gas be the force to which we owe the volcano and earthquake? The ancients held that these were due to wind imprisoned in the earth. If it found vent it brought up molten rock with it, and there was a volcanic eruption; if it could not escape it shook the earth. Now the greatest French geologist Daubrée made some very interesting experiments with high-pressure gas from a geological point of view. For these experiments he obtained the use of the Government apparatus for testing explosives. These are made of enormous strength, and with them the effects of very high-pressure gas could be tried. Amongst other results Daubrée found that high-pressure gas

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could drill a cylindrical cavity right through a block of solid granite. Also that solid granite and marble could be moulded, and made to flow through an orifice like water by the same mighty force. May not, then, the high-pressure gas deep down in the earth be the force which has drilled the channel for the lava which builds up the volcano? May it not be high-pressure gas which has moulded the igneous rocks, and made them flow into the cracks and crevices of the earth's crust where we find them to-day? May it not be the same gas trying to escape which shakes the earth in the earthquake? So, at least, may the geological crystal-gazer see suggested in the piece of quartz in which there is water.

IRONY.

Like the villain of melodrama, Irony dissembles: saying one thing, it usually means the opposite. Its employment as a figure of rhetoric is various. We find it under the pens of grave, important signiors, such as Gibbon; of elegant reprovers of their times, such as Addison; of wielders of the plaited scourge, such as Swift; of whimsical and meditative gossips, such as Lamb. The preacher and the orator make use of it. It has a cousin at several removes, held in affection by us all, in the form of a good-tempered raillery known as Banter. It is of nearer kin to Innuendo, which insinuates. It owns a terrible brother of the "dreaded name" of Sarcasm, that rends as with fangs. They are all, with others of the family, in the regular service of Satire.

When Lamb, writing to a friend in Botany Bay, says (we quote from memory), "Your hemp, I take it, is one of your chief industries," we recognize the banter he excelled in, with a spice of the oblique, the innuendo. When

Sydney Smith, discussing with the Chapter of St. Paul's the proposal to pave the path around the Cathedral with wood, remarks confidingly, "If we lay *our* heads together the thing is done," we recognize the same method, with an added relish of his peculiar and very frolicsome wit. When he advises the Bishop of New Zealand to assure the native chiefs that there will be "cold curate and roasted missionary on the sideboard," he touches what Bain calls the "cannibal humor" that Swift had developed with proper ferocity in the communication on boiled baby. When a gentleman in Parliament is told by a gentleman on the other side of the floor that "he did his party all the harm in his power—he spoke for it and voted against it," we perceive the innuendo in about as direct and deadly a mode as it is capable of. When Addison exhibits Sir Roger de Coverley in church, we are conscious of that irony of delicate malice which Thackeray (possibly misled by Macaulay) so strangely mistook for the tenderest hu-

mor. When Junius addresses himself to the Duke of Bedford (and minds, as he does not always mind, his grammar),

My lord, you are so little accustomed to receive any marks of respect or esteem from the public, that if in the following lines a compliment or expression of applause should escape me, I fear you would consider it as a mockery of your established character, and perhaps an insult to your understanding—”

we have the irony, at its artistic best, of pure malignity. When De Quincey presses the claims of murder as a fine art, we feel that his ironic humor will only just go down with us, that it only just makes the situation tolerable. When Gladstone, rising to answer Disraeli, who had manifestly lingered over dessert, said icily, “The right honorable gentleman has apparently had access to sources of inspiration which have been denied to me,” he had recourse to a figure of speech which, politely styled periphrasis, contains the quick, dagger-like thrust of sarcasm.

Irony, the learned tell us, was the method of Socrates with the Sophists. It is the method of all who seek to lure on disputants to their discomfiture. It ramifies, however, very widely in literature. The world’s masterpiece of sustained irony is, of course, “*Don Quixote*,” which, if a satire, is also very much more. Fitting examples would be too long to present, but, as a happy instance of irony within irony, the reader might be directed to the scene where the bachelor, Sampson Carrasco, plays with the Don concerning the veracious history of him by Cid Hamet Benengeli. It is interesting, by the way, to compare Cervantes’ treatment of *Don Quixote*, Addison’s treatment of Sir Roger, and Sterne’s treatment of Uncle Toby. In his direst plights the “flower of chivalry” is a dignified gentleman. Buffets and worse his creator suffers him to undergo, but he himself

makes us always regard him as the knight errant, merely born out of due season. Knowing him crazy, we yet tender him honor and a deep affection. This is the supreme art of Cervantes. Addison, we feel, is never quite sincere with us about Sir Roger. He has not his tongue in his cheek, as Swift has, when Gulliver “defends his country” against the charges of the Emperor of Brobdingnag. He does not fool Sir Roger as Toby Belch fools Ague-cheek, and as all the persons in the play fool Malvolio, and as Shakespeare himself fools Justice Shallow. But when we understand the true cast of Addison’s mind, and realize the bent of his genius, we are moderately sure that he is in the main making jest of the gentle knight. He will not say that he regards him as, on the whole, a rather silly old gentleman: that is not Addison’s method. But this is the inneundo or insinuation throughout; and we end by thinking that if Addison is not deliberately making game of his hero, he is in some degree making game of us. There are readers who will resent this view of Addison, but we believe it to be a just one. Now, Sterne’s Uncle Toby is also in large measure an ironical portrait, inasmuch as that unrivalled strategist of the bowling-green is sometimes admittedly a trifle on the weak side when it comes to distinguishing hawks from handsaws. But no one shall persuade us that Sterne did not dote on Uncle Toby as the rest of us have doted on him ever since. The sheer sincerity of the creation (coupled, of course, with the absolute success of it) is its eternal passport to our hearts.

Rabelais, who flings on the color with a lavish hand, is very skilled in the broader and more comic uses of irony, bringing to his immense art all the aid of his astonishing vocabulary. Glance at the scene of the trial of Judge Briddlegoose, in the matter of the subsidy-

assessor Toucheronde, against whom the Judge had pronounced a sentence "which did not seem very equitable to that centumviral court." Bridlegoose explains and defends his giving of judgment by a cast of the dice.

I posit on the end of a table in my closet all the pokes and bags of the defendant, and then allow unto him the first hasard of the dice, according to the usual manner of your worshipships. . . . That being done, I thereafter lay down, upon the other end of the same table, the bags and satchels of the plaintiff (as your worshipships are accustomed to do). . . . Then do I likewise and sembably throw the dice for him, and forthwith livre him his chance.

"But," quoth Trinquamelle, "my friend, how came you to know, understand, and resolve the obscurity of these various and seeming contrary passages in law?"

"Even just," quoth Bridlegoose, "after the fashion of your other worshipships; to wit, when there are many bags on the one side and on the other, I then use my little small dice (after the customary manner of your other worshipships), in obedience to the law. . . . I have other large dice, fair and goodly ones, which I employ in the fashion that your other worshipships use to do when the matter is more plain, clear, and liquid; that is to say, when there are fewer bags."

Throughout the whole of the scene, which extends to five or six chapters, the ironical jest is kept up in the gravest manner. A more richly humorous example is the banquet given by Bishop Homenas to Pantagruel and his suite, where the talk is in praise of the thrice-sacred decretals. One after other, on the spur of the moment, Friar John, Ponocrates, Eudemon, Carpalim, and the rest, invent a story of wonders achieved through the sacrosanct decrees; and at each recital, Homenas, getting steadily tipsy, proclaims a miracle, and clamors to the waiting-maids to fill him another brim-

mer of "light." Gymnast takes up the running:—

At Cahusac, a match being made by the lords of Estissac and Viscount Lau-sun to shoot at a mark, Perotou had taken to pieces a set of decretals, and set one of the leaves for the white to shoot at. Now I sell, nay I give and bequeath for ever and aye, the mould of my doublet to fifteen hundred hampers full of black devils, if ever any archer in the country (though they are singular marksmen in Guienne) could hit the white. Not the least bit of the holy scribble was contaminated or touched; nay, and Sansornin the elder, who held the stakes, swore to us . . . that he had openly, visibly, and manifestly seen the bolt of Carquelin moving right to the round circle in the middle of the white; and that just on the point, when it was going to enter, it had gone aside about seven foot and four inches wide of it, towards the bake-house."

"Miracle!" cried Homenas. "Miracle! miracle! Clerica, come wench, light, light here! Here's to you all, gentlemen; I vow you seem to me very sound Christians."

What a treasure of joy is François Rabelais! Has any one understood better than he what George Meredith means by the "cataract of laughter"? In parenthesis, we may say that (if we remember rightly) Mr. Meredith uses the phrase to describe the "supper in the manner of the ancients" in Smollett's "Peregrine Pickle"; and that super-excellent episode, had we space to give to it, would aptly serve our purpose.

Half a century nearer to us than Smollett is Walter Savage Landor; and we might bring forward as a thoroughly literary example of sustained irony his "Citation and Examination of William Shakespeare," but with diffidence we submit that it is a little tough in the reading. Rather would we name the matchless "Imaginary Conversations," and in especial such a piece as

the talk between Louis XIV. and the unctuous confessor.

Still nearer to us, chronologically, is the namesake of the author of "Hudibras," Samuel Butler, whose "Erewhon," at no time as well known as it should have been, is greatly distinguished among the minor, or even the greater, efforts of satire. In "Erewhon" (need we say?) sickness is a crime, while crime receives the treatment that we bestow on sickness. In working this out, Butler, as Garnett says, "holds an inverting mirror to the world's face with imperturbable gravity."

The chapter entitled "An Erewhonian Trial" is a finished pattern of the author's ironic art. He begins with the directness and seeming earnestness of Swift:—

But I shall perhaps best convey to the reader an idea of the entire perversion of thought which exists among this extraordinary people, by describing the public trial of a man who was accused of pulmonary consumption—an offence which until quite recently was punished with death.

The case is clearly a very bad one. The prisoner, a young man of twenty-three, coughs incessantly in the dock, and is kept on his legs there solely by the attentions of the two surgeons in charge of him. Vainly does his counsel plead

The Nation.

that the young man has been simulating consumption in order to defraud an insurance company from whom he wanted to buy an annuity. "If this could have been shown to be the case he would have escaped a criminal prosecution and been sent to the hospital as for a moral ailment." But the prisoner is damned by his appearance and his cough; and in ten minutes the jury find him guilty. The judge, in passing sentence of hard labor for life, says:—

It pains me much to see one who is yet so young, and whose prospects in life were otherwise so excellent, brought to this distressing condition by a constitution which I can only regard as radically vicious; but yours is no case for comparison; this is not your first offence: you have led a career of crime. . . . You were convicted of aggravated bronchitis last year; and I find that, although you are now only twenty-three years old, you have been imprisoned on no fewer than fourteen occasions, for illnesses of a more or less hateful character—

and so forth. Here, again, is an instance of the art that raises the smile which sympathy would repress. But all humor, and the appreciation of humor, have their foundation in malice—and who should know this more certainly than the masters of irony?

BOOKS AND AUTHORS

Miss Carroll Watson Rankin's stories are those that girls would like to live, and though her small heroines are often naughty, their surroundings are so odd and uncommon that their sins do not suggest themselves as possible of imitation in an ordinary environment, and so their example is not mischievous. For instance "The Adopting of Rosa Marie," her latest book, will not lead any girl to adopt and conceal a baby,

first because half-breed Indian infants are not abandoned every day, and second, because few girls have a cottage at their command in which to conceal such infants when adopted, and so the fun of the story is innocuous. Henry Holt & Co.

Mr. Rupert Sargent Holland goes back to Alfieri for the first man in the group of those whose biographies are

included in his "Builders of United Italy." The others are Manzoni, Gioberti, Manin, Mazzini, Cavour, Garibaldi and Victor Emmanuel, and a portrait is prefixed to each biography. Mr. Holland's subject is perfectly congenial to him, and he writes sympathetically of all his heroes, the poet, the man of letters, the philosopher, the "Father of Venice," the prophet, the statesman and the king, but he is never obtrusively partisan, and he carefully abstains from attributing Saxon ideals to Italians. The book is a better history of nineteenth century Italy than many an elaborate work. Henry Holt & Co.

Mr. Randall Parrish calls his "The Last Voyage of the *Donna Isabel*" a romance, and the classification is correct, except as concerns the closing chapters, which are purely incredible. It is the search for a treasure supposed to be contained in a ship, for a century and more, frozen into the ice a little north of the Antarctic Circle, which leads to the "last voyage," but one is taken thither through the ways of South American political intrigue, and some clever if unprincipled Yankee trickery. The hero tells of his bravery as modestly as may be, considering that the author gives him impossibilities to recount, and the heroine is a brave woman, and well described. Four full page pictures in color illustrate the story, but the author's pen does not need their assistance. A. C. McClurg & Co.

From "Coffee and a Love Affair," by Miss Mary Boardman Sheldon, he who is curious as to South American coffee may learn how it is grown, transported, and sold, and something of the modern Colombian revolution, a disturbance finely differentiated from the revolutions of other republics, and from the Colombian revolution of old days.

Also, while watching the love making of two young Americans, he may learn something of the customs and character of the native Indian and of the life which the resident white man and woman carve out for themselves by diligently taking thought for the least and greatest of details. Miss Sheldon makes no pretence at describing heroes and a heroine but she reveals a striking example of the manner in which the white man's burden is borne even by those pioneers who profess no aims not purely mercantile. Frederick A. Stokes Co.

"The Top of the World," by Mr. Mark E. Swan, is a story made from the extravaganza of the same title, and its amusing quality might be taken for granted without reading it, but no child will be persuaded to forego that pleasure after one look at the book's "jacket," on which is seen the wolf who swallowed a tablet of climate. Maida, the heroine, appears on the cover frozen into a cake of ice, and it is imperatively necessary to ascertain how she escaped, and within the cover are colored pictures of an amazing flying-machine and Jack Frost, and Santa Claus, and similarly interesting folk, and a story of the little girl who found all of them at the "top of the world," near the North Pole, which is really a wishing post, which once a year will grant a wish to any one who lays his hand upon it. The small reader will instantly see a reason for Arctic exploration. E. P. Dutton & Co.

Mr. George P. Upton's "Standard Concert Guide" differs from other books of the same species in including symphony, oratorio, cantata and symphonic poem, everything in short, except opera, more elaborate than a song or a composition for a single instrument. It is arranged in alphabetical order by the names of composers; the date of

each work is given, and it is described clearly and simply with as few technicalities as possible, and with no verbiage. It is plainly intended for music lovers, not for talkers about music. The younger European and American composers are fairly represented, but the elder are not neglected and the book will be found to be a complement of the average American concert programme. More than fifty portraits, some rarely published, illustrate the work, and also many passages of music, and it is substantially bound for the permanent use which it deserves. A. C. McClurg & Co.

Dr. Louis Adolphe Coernes' "The Evolution of Modern Orchestration" is addressed to musicians and to those really learned in music, but American students should regard it as one of the books necessarily to be read, and immediately to be placed within reach of consultation for reference. Its three parts, "Preliminaries," "The Classic Era," and "Romanticism," trace the entire history of the subject, including some links which modern teachers are prone to regard as entirely negligible because now neglected in practice, and set the reader on the way to understand, not only former methods of orchestration, but also the real tendency of certain modern methods. An introductory note by Mr. H. E. Krehbiel sets the valuable seal of his approval upon the work which Harvard University accepted, together with the score of the author's "Zenobia," as a thesis, entitling him to the degree of Doctor of Philosophy. The Macmillan Co.

Parents who disapprove of the current fiction prepared for children may find unexceptionable substitutes in the twenty volumes of "Life Stories for Children," translated from the German by Mr. George P. Upton, for, although nearly all of them are true tales, they

contain adventures at least as interesting as those of twentieth or nineteenth century Bill and Jack, or Revolutionary or Colonial William and John. The four volumes which now come to hand are "The Duke of Brittany," our Prince Arthur, nephew of John Lackland as his story is told by Henriette Jeanrenaud, who adheres more closely to history than to Shakespeare's dramatic version; "Arnold of Winkelried," by Gustav Höckel, who relates the whole story of the brave life to which the glorious deed at Sempach was so natural a culmination; "Marie Antoinette's Youth," by Dr. Heinrich von Lenk, who makes very slight attempts to soften the republican version of the behavior of the young Princess; and as the fourth, "Undine." All are illustrated and are bound in green cloth with a medallion portrait of the chief character ornamenting the cover, and each one will be regarded as a treasure by any child of discernment. A. C. McClurg & Co.

Those who flatter themselves that had an early copy of Fitzgerald's *Omar* fallen into their hands, they would have perceived its merits, proclaimed them, and so have prevented that long period of ignominious waiting at the bookseller's, now have the opportunity to test themselves. The editors of the "Wisdom of the East" series are publishing "The *Diwan* of Abu'l-Ala," translated by Mr. Henry Baerlein, and dedicated to Dr. E. J. Dillon. Abu'l-Ala was born in 973, forty-four years before *Omar Khayyam*, and the *Diwan*, or selection from his works, is intended as an introduction to his biography. The selections themselves are introduced by a commentary occupying half the little book in which they are printed and explaining their strangeness as far as may be possible. Inscrutable as a whole they will remain for most readers, but in each

quatrain may be discerned an elusive, elusive idea that both charms and beckons. The author's life was a romance in which public spirit, scepticism, self-sacrifice and the power of attraction were strangely blended, but the editor reserves its story for another volume. Meanwhile here are the quatrains, solid fragments of the hard undeniable common sense of the East. E. P. Dutton & Co.

If easy reading must be preceded by hard writing, the author of "The Little Brown Jug at Kildare," Mr. Meredith Nicholson, must have toiled mightily, for so lightly and swiftly is one passed from one amazing position to another that the mind is no more conscious of being taxed than the eye which gazes upon a tranquil sunlit landscape. Briefly, the book tells the story of two girls to whom chance simultaneously gave absolute power in a sovereign State, and sets forth the manner in which they used it, and the able assistance given to each by one of two friends who had been complaining to one another that adventures never came to them. As the two girl-governed States are contiguous, difficulties occur along the border, and attain such magnitude that the militia is called to arms, and the Governors of both States are imprisoned; but everything ends happily for everybody except for two scheming officials. The means by which this feat is effected make the most amusing book that has yet been written about the South, and a book at which the South will laugh quite as heartily as the North, for there is no smallest savor of ill-humor or unkindness anywhere in the story, and very nearly all the essentials of the ordinary romance of the South are absent from its pages. Those which remain, the brave ladies and clever men, the occasional pistol and a suspicion

of mountain dew, will be found anything but objectionable. Bobbs Merrill Co.

Mr. R. H. Johnston was rarely equipped for the journey from North China to Burma, through Tibetan Ssueh'-uan and Yunnan, described in his "From Peking to Mandalay." He is district officer and magistrate at Weihaiwei, knows the Chinese language and has the most friendly disposition towards the Chinese people, and made his long pilgrimage through to territory untrodden by any British foot unattended except by baggage coolies, and he acted purely for his own pleasure. His journey was not his first adventure in exploration, but it was his most important, occupying almost a year, and he brought home not only memories but photographs of unvisited places, and many scientific observations. Moreover he has something of the spirit of the mystic and of the poet, and he writes of his lonely communion with nature in terms that arouse profound emotion. By a curious coincidence one passage in his book is almost identical with one in which Mr. Oscar Kuhns in his "The Sense of the Infinite" speaks of moments of elevated vision granted to those who contemplate the supremely beautiful in Art or in Nature, and as the two authors arrive at their opinion by entirely different routes this is interesting to the readers of both. Generally, however, Mr. Johnston is the wise and curious observer of men and manners, with a decided turn for the study of national proclivities, and his note on the "yellow peril," although only three pages in length, suggests a remedy worthy of the consideration of all sane men. Thus in many ways his book marks a stage in the exploration of the East and is a model for his successors. E. P. Dutton & Co.